

Desert

MARCH, 1953 35 Cents



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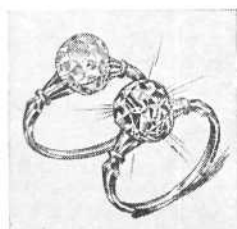
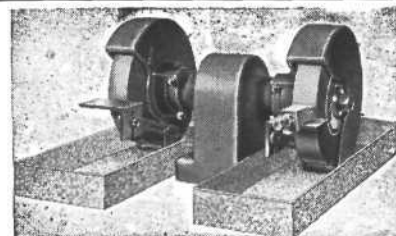
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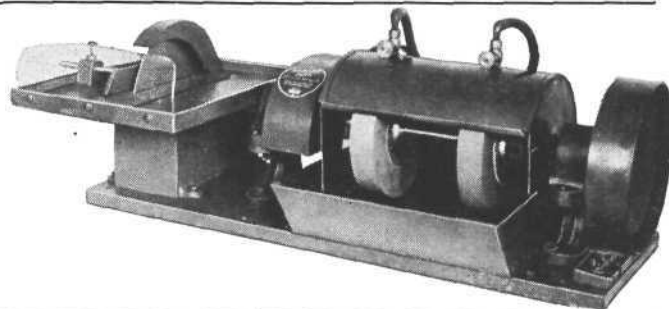
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DESERT CALENDAR

- Feb. 28-Mar. 1—All-Indian Festival, State Fairgrounds, Phoenix, Ariz.
- Feb. 28-Mar. 8—Calif. Mid-Winter Fair, Imperial, Calif.
- Mar. 1-31 — Exhibit of Orpha Klinker's paintings of California landmarks and portraits of pioneers, Southwest Museum, Highland Park, Los Angeles, Calif.
- Mar. 6, 13, 20, 27—Yaqui Indian Way of the Cross, Lenten processions, Pascua Village near Tucson, Ariz.
- Mar. 7-8 — Saguaro State Kennel Club's Annual All Breed Dog Show and Obedience Trials, Phoenix, Ariz.
- Mar. 7-8—So. Calif. Chapter Sierra Club hike down Grapevine Canyon in Santa Rosa Mts.
- Mar. 8 — Fourth Annual Almond Blossom Festival, Quartz Hill, Calif.
- Mar. 8—Desert Sun Ranchers Rodeo, Slash Bar K Ranch, Wickenburg, Ariz.
- Mar. 8—Dons Club Superstition Mts. lost gold trek, to hunt the Lost Dutchman Mine. From Phoenix, Ariz.
- Mar. 14-15—Natural Science Section, So. Calif. Chapter Sierra Club camping trip to Magnesia Springs Canyon, Rancho Mirage, Calif.
- Mar. 14-15—Second Annual Desert Rockhounds Fair, Riverside County Fair Grounds, Indio, Calif.
- Mar. 15—Desert Sun Ranchers Rodeo, Remuda Ranch, Wickenburg, Ariz.
- Mar. 15-21—National Wildlife Week.
- Mar. 19—Ceremonial Dance, Laguna Pueblo near Santa Fe, N. M.
- Mar. 20-22 — Jaycee World Championship Rodeo, Arizona State Fairgrounds, Phoenix.
- Mar. 21 — Diamond Jubilee Dance Festival, Mesa, Ariz.
- Mar. 21-22 — Desert Peaks Section, Sierra Club climb of Queens Mt. and Lost Horse Mt. in Joshua Tree National Monument.
- Mar. 22—Dons Club Trek to San Carlos Indian reservation. From Phoenix, Ariz.
- Mar. 22—Bandollero Tour to Agua Caliente. From Yuma, Ariz.
- Mar. 26-27—Quarter Horse Breeders Convention, Tucson, Ariz.
- Mar. 26-28—Jaycees Rawhide Round-up, Mesa, Ariz.
- Mar. 28—Saddle Club Horse Show, Equestriada, Wickenburg, Ariz.
- Mar. 28-29—Natural Science Section, So. Calif. Chapter Sierra Club trip to Fern and Andreas canyons near Palm Springs, Calif.
- Mar. 28-29 — Dons Club overnight trek to Grand Canyon. From Phoenix, Ariz.
- Mar. 29-30 — Quarter Horse Show, Rodeo Grounds, Tucson, Ariz.
- Mar. 30-Apr. 5—Sierra Club Easter trip to Colorado River country, Lake Mead, Valley of Fire, Death Valley.



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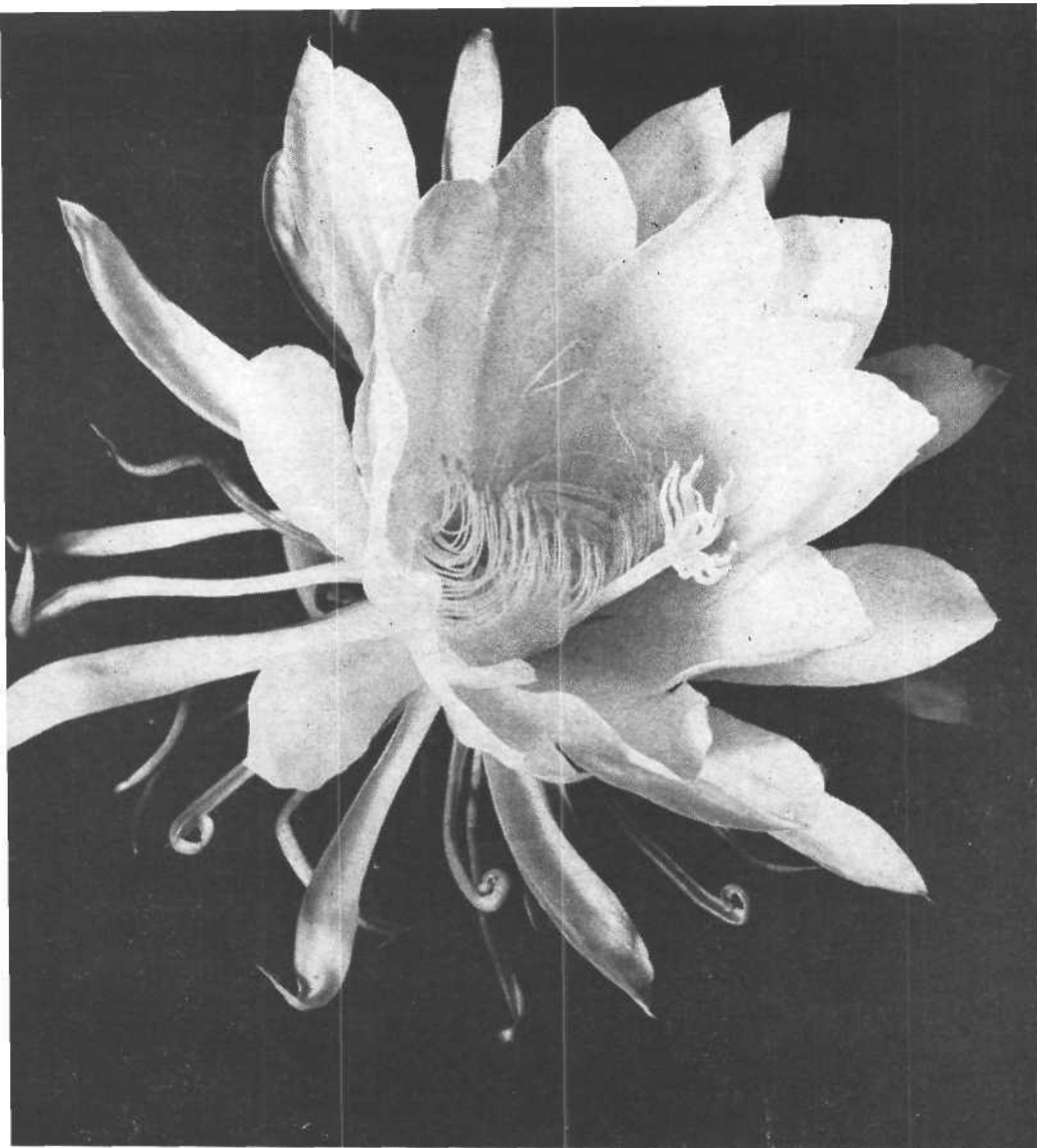
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Night blooming cereus photograph by Ivan B. Mardis.

DESERT MUSIC

By HAZEL PHILIPS TREIBLE
Inglewood, California

If you listen, really listen
On a silver moon-kissed night,
You may hear faint desert-music
From the Yucca bells of white
That are rung by playful breezes
Swaying every waxen flower,
Playing eerie, elfin love-songs
At enchanted midnight hour.
You may hear the sleepy twitters
Floating through the scented air,
Of the cactus-wren's wee babies
Who are safely cradled there.
Or the coyote's minor music—
Stirring chords of swooping bat—
Rattler's castanets of danger—
Staccato footsteps of the rat.
All these night-tones of the desert
Blended, make a melody
Heard by those who love to listen
To this desert symphony.

TIME

By TANYA SOUTH

How many ages old these hills
That rose but "yesterday"! Mind fills
To overwhelming with the vast
Far reaches of an endless Past,
And with that vast, that farthest
stretch
That all Eternity can sketch!
Endless to us! To God 'tis but
A Moment's thought.

APRICOT MALLOW

By LYDIA BOWEN
Pasadena, California

There must be falls of sunset flakes
To make the desert flower.
Her sudden-lighted fairy flares
Could not be heritage, alone,
Of sand and vagrant shower.

I'd like to see a sunset storm
Swirl rainbows down the gloom;
And scatter their most witching gold
In petal flakes on desert's gray,
To make the mallow bloom.

PLEA OF THE DESERT

By FEE CLIFFORD ESTEB
Phoenix, Arizona

Forsake me not, nor chafe me with rough
hands—
Keep me with loving care
And these, my sands,
To you my love shall bear.
Defile me not; enjoy each fragrant lair,
And these will bind your heart with tender
bands.

Mind every rock; each stone, in its set place;
Loot not my house, nor yet despoil my
face—
Make pledge with me, and I'll return your
grace.
So be my honored guest—
And throughout my domain
Pursue your quest—
Continue so, and so my guest remain.

Night Blooming Cereus

By BESSIE BERG
Rio Linda, California

Hand-maiden of the Moon,
The pale, sweet radiance of a face
So delicate as yours befits the night's
Cool gloom, to light some sweetly shadowed
place!

Nature's lush chemistry
Conspires in fragrant lure,
Crescendo of sweet odor symphony;
Impelling trail of romance, yet demure.

All in one moon-veiled night
Your love is spent; its ecstasy
Well worth the cost—Sun's hot and angry
blight.
The waxy blossom's closed; soul lost in
perfumed flight!

DESERT CATHEDRAL

By RENA OAKLEY LEWIS
Roseburg, Oregon

It's a place of solemn grandeur
Where, as far as you can see,
There is not a fence or dwelling.
Not a rosebush or a tree;
Where the hills are rough and jagged
Heaps of varicolored stone;
It's like a vast cathedral
Just for God and you alone.

The altar is a mountain top
With altar cloth of white
Often bathed in golden glory
By the evening sunset light.
Here the cares of life are lifted,
Like the birds above, you're free.
Here the hours and the minutes
Blend with eternity.

Here the stars trip by on tiptoe
All through the desert night
And leave behind at dawning
The yucca's candle light.
Here God speaks in thunderous silence
And in the whispering of the sand.
Here he who treads the desert floor
Treads the hollow of God's hand.

DESERT SUNRISE

By DORIS BLAISDELL BARNUM
Westfield, New Jersey

No. wind, no sun, no insect sound.
Soft air, soft earth, soft light, around
The vast expanse of dawn-lit plain,
As one low star now seems to gain
New brilliance over mountain peaks
Whose jagged heights the first glow seeks.

Across the mesa dimmed by night
Steal shadows of the day's new light.
Red earth, the sage an olive green.
A yucca's brittle stem now seen
As white and fragile, holding high
Its faded blossoms toward the sky.

The distant mountains, misted blue,
Now deepen to a purple hue
Outlined in silver, as the pale
And luminous sunrise draws a veil
Of gentle colors through the sky.
A lonely rose-tipped cloud floats high.

A soft breeze feathers through the sand.
One small bird voice makes its demand
To break the silence of the dawn.
Sweetness of night and stars is gone
As glowing sky now holds the sun.
Thus, out of time, a day has come.



Earl E. Tate, Mayor and only resident of Rawhide, Arizona. These are the tires which give him two thousand miles' service around Rawhide. "But if I'd wanted pavement, I'd have left here years ago and gone to Los Angeles."

Ghost Town Prospector...

Lone resident of an Arizona ghost mining camp, Earl Tate spends his days prospecting the hills where gold, silver, copper and manganese are found—or doing assessment work on his claims. Here is the story of a man who has found enjoyment and health in a remote sector of Arizona where the roads are too rough for tourist travel.

By JAY ELLIS RANSOM
Photographs by the author
Map by Norton Allen

THE OLD mining camp of Rawhide, Arizona, was our destination. We had left U. S. Highway 60-70 at Wenden and had driven due north toward the low saddle of Cunningham Pass in the Harcuvar range.

"A hundred and ten in the shade," my Dad remarked as we left Wenden. It was mid-summer. Our foreheads dripped and the engine boiled as we

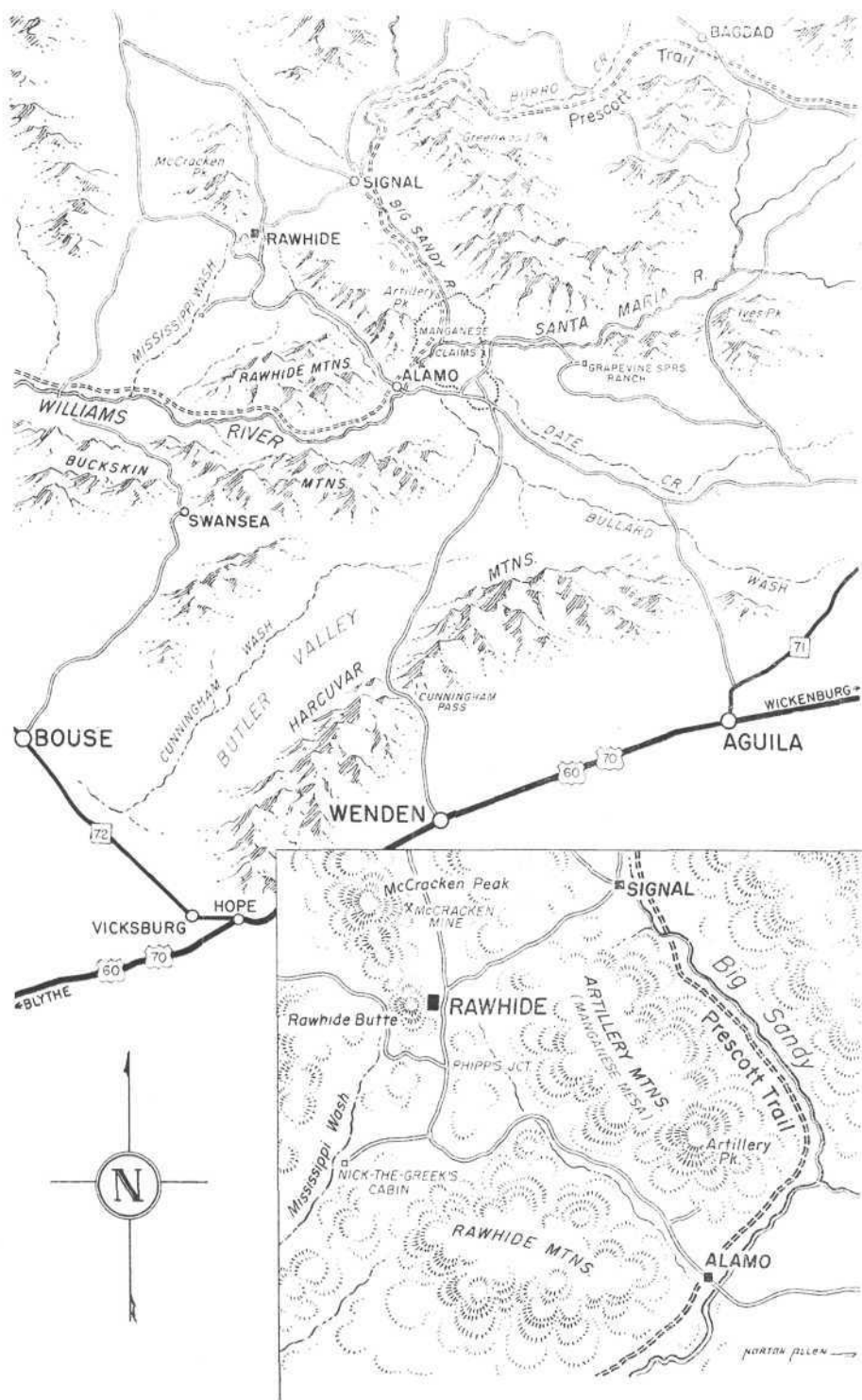
climbed the grade toward the pass.

Our route was the county-graded dirt road which winds deviously for 40 miles to the old crossing of the Bill Williams River at Alamo. There we forded the shallow river to enter historic country, for, nearly a century ago, the freighting road from Captain Aubrey's landing at the junction of the Bill Williams with the Colorado came this way over the barren saguaro

desert to Signal, past Artillery Peak and thence to Prescott.

At Alamo, very small but the main settlement in the 120 miles between Wenden and Kingman, we found the first real indication of the highly mineral character of the country. On the flank of rimrock behind a cluster of jaded shacks we saw the sloping roofs of a mill. In operation during the last war, it now idly awaits the custom ore that rarely comes. I asked the first old-timer we met about it.

"Sure, that's Jim Rogers' mill for the Little Kimball Mine five miles back in the hills," he explained. Then going on in pithy statements he told how this mine had been opened in 1868 for gold and copper. "It's got two 100-foot shafts and about 1400 feet of drifts and stopes," the old-timer



added. "Last feller operated it in 1941 without permission of the owner. Just up and moved in, mined a short while, and moved out with better'n \$12,000 in gold. That's how rich it is—150 to 200 dollars a ton."

A few miles above Alamo the road forks at what is locally known as the R. C. Phipps' Junction—named for the old prospector who lives off to the east a short distance. Three and a half miles northwest of this desert marker we reached Rawhide.

This old mining camp is just as raw as its name. At present it would be a

complete ghost town except for its one resident, Earl W. Tate—mayor, chief of police, judge, jury, and city council.

Tate simply moved in and preempted a cabin. The land, including the townsite of Rawhide, is owned by Clyde Coffey who laid claim to the district in 1890 and hasn't bothered much with its still rich but non-producing silver mines since.

Earl welcomed us with a loud halloo as we pulled to a dusty stop between the two shacks that comprise the community. Standing on a hill a hundred yards south of town with a commanding view of the desert, Earl's

house is "still within the city limits," as he said. It was from his wide screened front porch that he bellowed down, "Come on up. The road's marked."

Sure enough, we saw a hand-painted sign: "RAWHIDE, Queen City of Arizona."

"As mayor of the Queen City of Arizona, I welcome you," Earl boomed as we shook hands. "I might add," he grinned, "you're the first visitors through these parts in so long I can't rightly remember when the last ones came. You folks like some cool fresh ice water?"

From a modern butane refrigerator, this up-and-coming old-timer served the most delicious ice-cubed water in all Arizona. And believe me, after you've sweated through that 50-miles of jackrabbit trail from Wenden, even alkali water would have seemed like nectar!

"Practically all the old prospectors around these diggings have gone modern with gas ranges, refrigerators, even heaters in winter," Earl explained. "Sure ain't like it used to be when I came here years ago."

Rawhide, Arizona—to distinguish it from its livelier and better known sister in Nevada—was discovered before Tombstone, in 1868, along with nearby McCracken. In the 'seventies Rawhide was operated largely by catch-as-catch-can miners. Singly or in small groups, these hardy souls passed through the country, either from Phoenix or Prescott bound for California, or vice versa. Some of them, no doubt, were men who had come West to escape the law. It was not often that a peace officer ventured into this remote section of the Arizona desert.

The main tunnels of Rawhide were opened by these transient characters, desperate for quick and ready wealth. Since the ore has always been high-grade stuff, found mostly in pockets, the miners worked until they had enough to satisfy their needs, then moved on. Most of them never returned.

In the early days, Anglo-Americans played less important roles in Arizona Territory than did the wild Apaches, the Utes and the ever-warring Navajos. Because of raids on stock and wagon trains, the U. S. Army sent soldiers out to garrison Kingman, Prescott, and Yuma—then the head of navigation on the Colorado River. It was raw wild Indian-infested country inhabited mostly by jackrabbits, coyotes, mule deer and tarantulas.

Since the only all-year water and grass were found along the Bill Wil-



Rawhide, Arizona—silver-gold-copper-manganese center of the western part of the state.

liams River, the Army decided to establish a landing at its mouth and build a freight road up the river to supply Prescott and other inland garrisons. Captain Aubrey was sent out to do this job, and with light-draught cargo boats bringing supplies up the Colorado from Yuma, ox teams were soon crawling over the tortuous trail, winding in and out of gorges and canyons, and dodging Indians along the only passable route in this inhospitable desert.

Sitting comfortably on Earl's front porch, looking out over the far desert to the distant Maria Mountains, we sipped ice water and were refreshed by the cool breeze which had sprung up. Earl pointed toward the northeast, leading our eyes up across saguaro, mesquite and ironwood to where a broad sloping mesa rose toward the north, cut with arroyos and barrancas, and faced with sheer rhyolite cliffs.

"The old ox road cut away from the river about here," he said, "and climbed straight up over that mesa. That's all rich manganese country, and the Bureau of Mines is operating what they hope will be the largest manganese mine in the country five miles north of here."

His eyes twinkled as he remarked: "I've got manganese and carnotite claims right near here that I'll sell you

for five dollars to five million. Take your pick."

Not daunted by our lack of enthusiasm, Earl continued; "Or, if you want to stake a claim for yourself, I'll take you out and show you all the good ground you want. Won't cost a dime. Been wanting to get out and stretch my legs a bit, anyway."

Around Rawhide one can pick up fine blue-green specimens of a rich copper-silver ore from the surrounding dumps, now pretty well grown up with mesquite and ironwood. Raw ore of considerable cash value may be had for the taking.

"A feller stayed here 40 days," Earl reminisced, "hand-picking over one old dump. He took out nine tons of ore that averaged better than 500 ounces of silver to the ton. Not bad for just a casual prospector."

I wanted to get some photographs of the old workings. "Take that there trail out back of my cabin," Earl directed me. "She leads right smack to the richest diggings of them all."

The trail was plain in the blazing sun, scrabbled with rocks and gravel, buttressed on each side by scrawny mesquite. Lizards and tarantulas hid out in the shadows, and I would not have been surprised to see a Gila monster waddle along the ground.

Earl elaborated somewhat. "If you want to go up to the top of Rawhide Butte there," he suggested, pointing to the nearest hump on the landscape, "you'll find it just a hollow rhyolite shell. The early miners bored into the base and stoped upward until they completely gutted it. Guess nobody ever thought to bore downward. May be millions left—who knows?"

I had half a mind to try scaling the butte, Speed Graphic and tripod notwithstanding, but by the time I reached the lower workings in the 110-degree heat—with no vestige of shade—I had enough. Panting and as thirsty as one of old Captain Aubrey's plodding oxen, I stopped and took a breather. The view in all directions was impressive, the mountains rising in pastel layers from the Buckskins southwest to Artillery Peak north. Sun baked aridity was its chief characteristic. Even the breeze that curled lazily around the butte and riffled the mesquite below seemed listless and tired.

Artillery Peak has an interesting history. When Aubrey punched his ox teams up the Bill Williams to the stop-over station of Signal, he traveled part of the way along the base of this landmark. Indians continually besieged the trail, and to protect the doughty captain's men as well as the supplies

vitaly necessary to the frontier posts, soldiers were sent to Signal.

Thinking they could better command the approaches to the peak from its craggy summit, a detachment hauled a stout cannon up its almost perpendicular sides. Looking up I wondered how the feat had been possible; but by grunt and by heave, they succeeded. From this expedition came the name Artillery Peak.

Inevitably a battle ensued. A war party of Utes out for gain and glory crept up the ox trail to the base of the peak, probably not knowing the cannon was there. It was fired almost at point blank range into the warriors, killing a great number of Utes with a powerful charge of grapeshot. In their eagerness to finish off the rest of the redskins the powdermen loaded too much of the black explosive behind their charge. As the cannon discharged, it back-fired, killing almost as many American soldiers as Indians. The episode brought consternation to both sides, and the Indian warfare came to an end temporarily.

Around the base of Rawhide Butte,

where the shafts and short tunnels erupt from the mountainside onto small dumps, I found variegated specimens obviously rich in copper and silver. The blue-green color resembles azurite, and I suspected that the larger pieces might take a good polish. Some of the specimens with clearly defined stringers of pure gold do polish nicely, for I saw some on display in a rock shop in Salome a short distance west of Wenden.

An abundance of quartz and quartzite is found in much of the region—float that could lead to new discoveries. Down in Mississippi Wash to the southwest I found several cabbage-size samples of jasper lying loose in the stream bed. A large deposit of good grade jasper, or rather a jaspagate containing specular iron, lies in Rawhide's immediate vicinity. Earl Tate is quite willing to show visiting rockhounds how to find it.

Besides being good gold-silver-copper hunting ground, the district north of Rawhide, extending in an east-west direction for about 20 miles, is said to have the largest deposit of high-

grade manganese in America.

"It's been diamond drilled for 16 miles," Earl observed, "and men are still on the lookout for richer deposits they think may be found.

"Of course," he smiled modestly, "all us old-timers have staked out what we think are the best bets. But, you know, many claims lapse every year for lack of assessment. We're not so strong as we once were, 40, 50 years ago. Takes a pretty stout man in this country to swamp out a road and put down a legitimate prospect hole."

I checked on the manganese deposits in a mining bulletin. Lying in a U-shaped formation covering approximately 25 square miles between the Artillery Mountains and the Rawhide Mountains, the richest outcroppings face the northeast side, six to ten miles from Alamo Crossing. The major drawback to its development is the 50 miles of rough desert road to the nearest shipping centers of Congress Junction or Aguila.

The principal deposits — and Earl drove us out to one where he had

Back of the light truck is one of the many outcroppings of manganese found in the Rawhide area.





Earl Tate locates a manganese claim—location monument in center, with notice of location in his hand. One copy of this will go in the monument, and another copy to the county clerk.

staked a claim—are part of a sequence of alluvial fan and playa material, probably of Pliocene age laid down in a fault basin.

The mangiferous beds make up two zones from 750 to 1000 feet apart vertically, each from 300 to 400 feet thick, distinguished in a predominantly red sandstone region by a dull black color — like graphite. The main or upper zone crops out on the surface in whole acres of hard black rock so that one, visiting it, could not possibly miss pay dirt. There are three kinds of ore; sandstone, clay and “hard” ore, the last being richest, with an average of six to seven percent manganese. About fifteen million tons have been blocked out, of which a half million runs 15 per cent manganese. Altogether, the district is estimated to contain an assured minimum of 200,000,000 tons of ore averaging three to four percent manganese.

Riding with Earl Tate in his antique jalopy was an experience for the books. “I get a couple thousand miles out of a set of tires,” he said.

“But if I wanted pavement, I’d have left here years ago and gone to Los Angeles. One thing I admire most about Rawhide is it ain’t always cluttered up with women in slacks.”

The roads of the whole area run through highly mineralized country making prospecting fairly convenient since deposits of manganese can be seen on top of the ground from a great distance.

“Of course, a burro in this game is a man’s best friend,” Earl remarked dryly. “And if you can’t round up a burro, a good substitute is a Model A Ford. I’ve driven my truck over some mighty tough roads around here. Whenever I pass a bunch of wild burros—they fill the night air with their goldarned braying—I’ve watched them cock their heads to one side, eyeing me and my truck as much as to say, ‘Thank heaven for a Model A—the burro’s salvation.’”

The roads in this area are passable—but not good. Motorists going into this part of Arizona should be well

equipped with water and gas and other supplies, including shovel and axe. For here, one is far from the main highway and entirely on his own resources.

Not so long ago several Bureau of Mines men stopped over in Rawhide for a month, camping in one of the open-air cabins free of charge. Anyone can do this, although the occasional visitor who plans to spend the winter—as one couple I know does each year—may rent a cabin in Alamo for a song, say five dollars a month, payable to the nearest old-timer. The available cabins are in good condition for free-and-easy camping. Winters are mild and delightful, healthy beyond describing for those who have the leisure to enjoy them.

“Probably you won’t believe it,” Earl Tate said to us as we bade him goodbye, “but most of the old-timers you’ve seen out this way are past 75 years of age. That’s what this country does for a man—makes him grow right back to his youth again.”

Lilies of Kingston Pass . . .

By RICHARD F. LOGAN
Photographs by the author
Map by Norton Allen

MANY PLANTS which appear ordinary under humid conditions have bizarre and fantastic relatives in the deserts of the Southwest. Typical is the lily family, with its desert representatives, the weird Joshua tree, the yucca and the nolina.

I first heard of the nolinias of Kingston Pass from the late Judge Dix Van Dyke, well known authority on the desert, one cold night in January.

Janet Logan, the author's daughter, marvels at the size of the blossoms on a clump of nolinias in Kingston Pass, near Baker, California.

The city lily has some curious desert cousins—among them the shaggy Joshua Tree, the yucca and the nolina. This story is about the nolina—a strange little family of them which has somehow gained a foothold in a remote sector of the Mojave desert, more than a hundred miles from others of the same species. This is an April field trip for the botanists and wildflowers lovers.

1951. Out over the desert surrounding the old town of Daggett, California, the screaming wind swept eastward. But behind the staunch tamarisk wind-breaks it was calm, and before the great fireplace in the booklined living room of the low rambling ranch house it was cozy and warm.

Sitting there, the Judge and I talked of desert plants, of their eternal battle against drouth; of the ancient lakes of the desert and their probable role in the distribution of vegetation over the desert country—of the strange places in which some species grow.

"One of the strangest situations of all," Dix said, "is that group of nolinias growing up in Kingston Pass. How do you suppose they ever got there?"

"Where is Kingston Pass?" I asked.

"Well, you go up the Baker-Death Valley road to Tecopa. Kingston Pass is off to the east of there."

"Tecopa! Why, that is far beyond their usual range," I exclaimed.

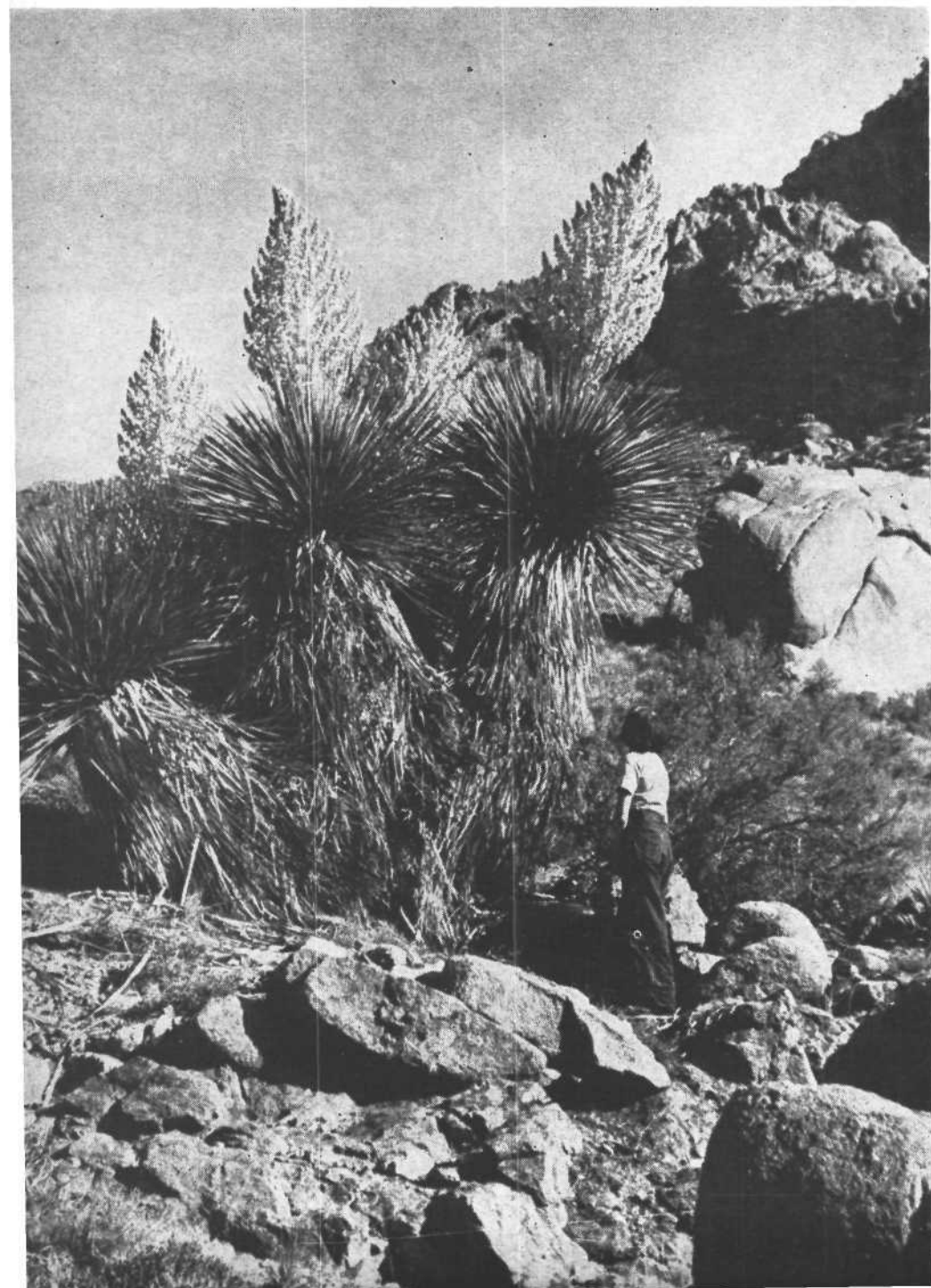
"That is the remarkable thing about it," replied the Judge. "The nearest other nolinias are on the eastern end of the San Bernardino, and in Joshua Tree National Monument — over a hundred miles away."

My curiosity aroused, I decided to see the nolinias at Kingston Pass. I talked it over with Mary Beal, the desert botanist. She had been there twice herself; but the last time the blooming season had passed the climax of its beauty, and she was eager to go again. On her advice, we planned a trip for April 8.

On the night of the 7th, Estelle and I, with our daughters, Janet, 8, and Sandy, 10, camped in Mary Beal's dooryard on the Van Dyke ranch. Early the next morning, with Mary as guide, we took off for the Kingston area.

It was a lovely spring day in the desert—clear, blue sky, excellent visibility and with the temperature soaring rapidly as the day progressed till at noon it was over 90 degrees. Stopping occasionally to view the meager displays of spring flowers the drouth-stricken desert was able to produce that spring, we passed uneventfully through Baker and turned north on the Death Valley road. Fifty miles north of Baker, we turned off the main road and crossed the salt-encrusted channel of the Amargosa River into the town of Tecopa.

At the general store, the storekeeper



reported the road was in passable condition and that cars occasionally used it.

We headed east on a surfaced road which climbed gradually through old lake-bed sediments now being dissected into badlands by the gullies tributary to the Amargosa. It is a barren country, almost devoid of vegetation. A few miles to the east, the pavement ended at the mining camp of Old Tecopa, located in a gap in a north-south ridge. Beyond, we emerged at the foot of a great bajada or alluvial fan at the foot of the Kingston Mountains, visible as a jagged silhouette against the eastern skyline.

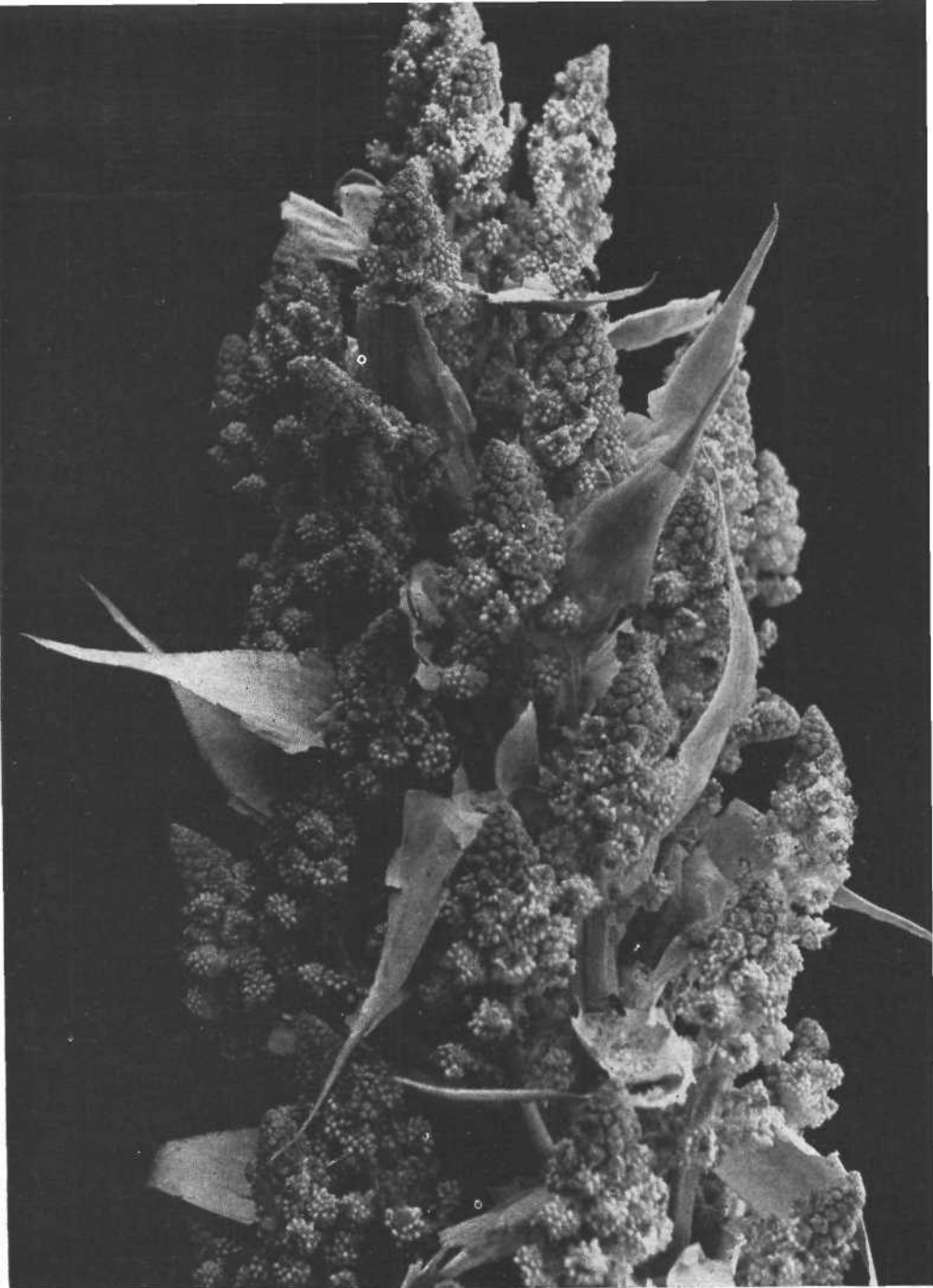
As we climbed gradually up the slope, a progressive change in the vegetation was observed. To the simple assemblage of creosote bush (*Larrea tridentata* var. *glutinosa*) and burroweed (*Franseria dumosa*) near Old Tecopa were soon added Mormon tea (*Ephedra*), desert cassia (*Cassia armata*) and pencil cactus (*Opuntia ramosissima*). Higher up the bajada, the bushes grew closer together and taller. Near the mountain foot, short Mojave yucca (*Yucca mohavensis*) rose above the surrounding shrubs, and many new species made their appearance. Among them were Mojave aster (*Aster abatus*), Incense bush (*Encelia farinosa*) and the evil smelling turpentine broom (*Thamnosma montana*) with its peculiar fruit, resembling miniature oranges and indicating thereby its close kinship to the citrus.

At the head of the fan, the one-track road entered a canyon slashed into the side of the Kingstons. For a half-mile we proceeded up this canyon, the road sometimes following the stream bed, but more often cutting into the loose material that had fallen from the north wall.

Then, suddenly, Mary Beal exclaimed "There they are!" pointing at the south wall of the canyon. And there, far above us, we sighted the tall, creamy-white blossoms of the nolin. Magnificent they were, a gigantic bouquet of wild lilies, of startling beauty amidst the drab shrubs and the barren rocks.

After jockeying the car off the road, we all scrambled down into the stream bed and climbed the several hundred feet of steep hillside to the plants, with only hurried glances for the colorful patches of blooming annuals on the way.

There are only a few of them — a dozen or so—growing in a little side gully in the wall of the main canyon. Many more, Mary Beal informed us, grow in other similar situations on



The multitude of buds and partly-opened flowers on a nolina, when seen from close range, have the appearance of a head of broccoli. They differ, however, in their waxy whiteness and in the great size of the flower cluster.

nearby slopes. Each plant consists of a short stout trunk, five to seven feet in height. From its top, the leaves radiate out in all directions, forming a bushy rosette. The leaves are dark-green and average four feet in length but only about one-half inch in width. This gives them a grass-like appearance—but the grassy quality disappears instantly upon physical contact. For they are stiff, armed with sharp teeth and tipped with dagger points. As the leaves die, they droop from their bases, eventually surrounding the trunk with a shaggyness like that of a Joshua tree or the skirt of a palm.

While the individual flowers are minute, hundreds of them are massed

together into a great cluster shaped like a gigantic torch flame, four to five feet high and about three feet in diameter. Only one of these clusters rose from the top of each rosette of leaves, but some plants proudly displayed blooms from as many as four separate trunks. Their creamy-whiteness contrasted markedly with the reds, purples and browns of the rhyolite of the surrounding cliffs and slopes. The petals have the same waxy texture that characterizes the blossoms of the Joshua tree.

Nolinas are a fairly common plant in Arizona, New Mexico and parts of Southern California. They closely resemble the yuccas and sotols, to which they are related. All are mem-

bers of the lily family, despite their shrubby or tree-like forms and their strange appearance. All have long tapering leaves terminating in a sharp point and radiating in all directions from one place, forming a dense rosette. The leaves of the sotol are armed with conspicuous stout prickles along the margins, whereas the yucca and nolina are free of them. The flowers of both the yucca and nolina are massed together into great clusters on the ends of the branches; but the individual flowers on the yucca are fairly large—from one-half to three inches in length—while those of the nolina do not exceed one-sixth of an inch.

Most authorities recognize three species of nolinias. One, the bear-grass (*Nolina microcarpa*), with grass-like leaves, grows in low clumps over the middle-altitude mesas and grasslands of Arizona and New Mexico, but is not reported from California. A second species, the Bigelow nolina (*Nolina bigelovi*), grows as a low tree in the mountains bordering the Salton Sea and eastward into Arizona. Its smooth-edged leaves distinguish it from the third species, the Parry nolina (*Nolina parryi*), which has saw-toothed leaves and is reported from Joshua Tree National Monument and the eastern San Bernardino. Benson and Darrow, in their valuable *Manual of Southwestern Trees and Shrubs* recognize the same distinguishing characteristics, but make the Parry nolina merely a variety of the Bigelow (*Nolina bigelovi*, var. *parryi*). In all cases, it is agreed that the specimens we were visiting are Parry nolinias.

We took pictures of these photogenic plants and their surroundings. The air in the vicinity hummed with the vibrations of the wings of hundreds of bees, attracted from their hives in the cracks of distant ledges by the fragrance of the blossoms.

Returning eventually to the car, we decided, despite the lateness of the hour, to continue on over Kingston Pass rather than retrace our steps to Tecopa. Beyond the nolina site, the road climbed steeply with the canyon bottom for another half mile, and then took off at a very steep angle up the side of the canyon. On the loose stones and dirt of the poor roadbed, it was about all that our car would pull in low gear, but we nonetheless slowly chewed our way toward the top.

Although the sun was getting low in the west, the red-brown walls were radiating the heat they had absorbed during the day, and it was still hot. After three-quarters of a mile the radi-

ator was boiling, but rather than waste the last bit of the day stopping to cool off, we pushed on. At last we rounded a turn and saw the pass just ahead. And at that moment, the overheated engine vapor-locked and stalled!

The sun was just setting in the west. Below, the deep valley from which we had ascended was already dark and forbidding. Beyond, the ranges about the southern end of Death Valley were silhouetted one on another, with the depth of shadow decreasing into the distance. Above, the thin overcast—which had caused us concern for the quality of our nolina pictures now recompensed with a magnificent array of colors.

Janet, our youngest, intrigued with

the view, "painted" its picture by drawing in the outlines and labeling the appropriate colors, so that she could really paint them in upon her return home. Sandy walked up to the pass, to forestall the difficulty that would arise should a truck or car come over and not see us at once.

In a few minutes she was back, saying that she didn't need to watch for cars, because the man said there wouldn't be any.

"The man?" we all echoed.

"Yes," she replied, in a matter-of-fact manner that only a ten-year-old can assume. "You know, the one that lives there."

This was a great surprise to all of us—for we had assumed the area to

More Prizes for Stories of True Desert Experiences

Late in 1951, *Desert Magazine* held its first "Life-on-the-Desert" contest. Amateur and professional writers alike were invited to send in stories of desert experiences, and top entries were awarded prizes by staff judges.

Since winners were announced in January, 1952, *Desert* readers have been enjoying these prize-winning Life-on-the-Desert stories, gaining entertainment and desert knowledge from the experiences of others.

So popular has this series been, in fact, that *Desert's* staff has decided to conduct another similar contest in 1953.

For the best story of from 1200 to 1500 words submitted by May 1, an award of \$25.00 will be made. Each other contestant whose manuscript is accepted for publication will receive a \$15.00 award. Entries will be judged on the basis of story content and writing style.

The story must relate a true experience, preferably of the writer—no yarns or tall tales or heresay will qualify. The experience may involve danger while lost on the desert, an adventure while living or traveling on the desert or in Indian country, while homesteading, rockhunting or prospecting. It may be the meeting of an unusual character, revealing a phase of human nature or a distinct way of life. It may recall "good old days" in the mining camps or frontier towns. Perhaps it will contain a lesson on desert wildlife or plants or desert living.

The contest is open to amateur and professional writers alike, but those who plan to submit manuscripts should carefully observe the following rules:

All manuscripts must be typewritten, on one side of the page only.

Entries should be addressed to Editor, *Desert Magazine*, Palm Desert, California, and must reach this office by May 1, 1953, to qualify for the awards.

If good sharp 5x7 or larger pictures are available, an extra \$3.00 will be paid for each photograph accepted. Pictures are not essential, however.

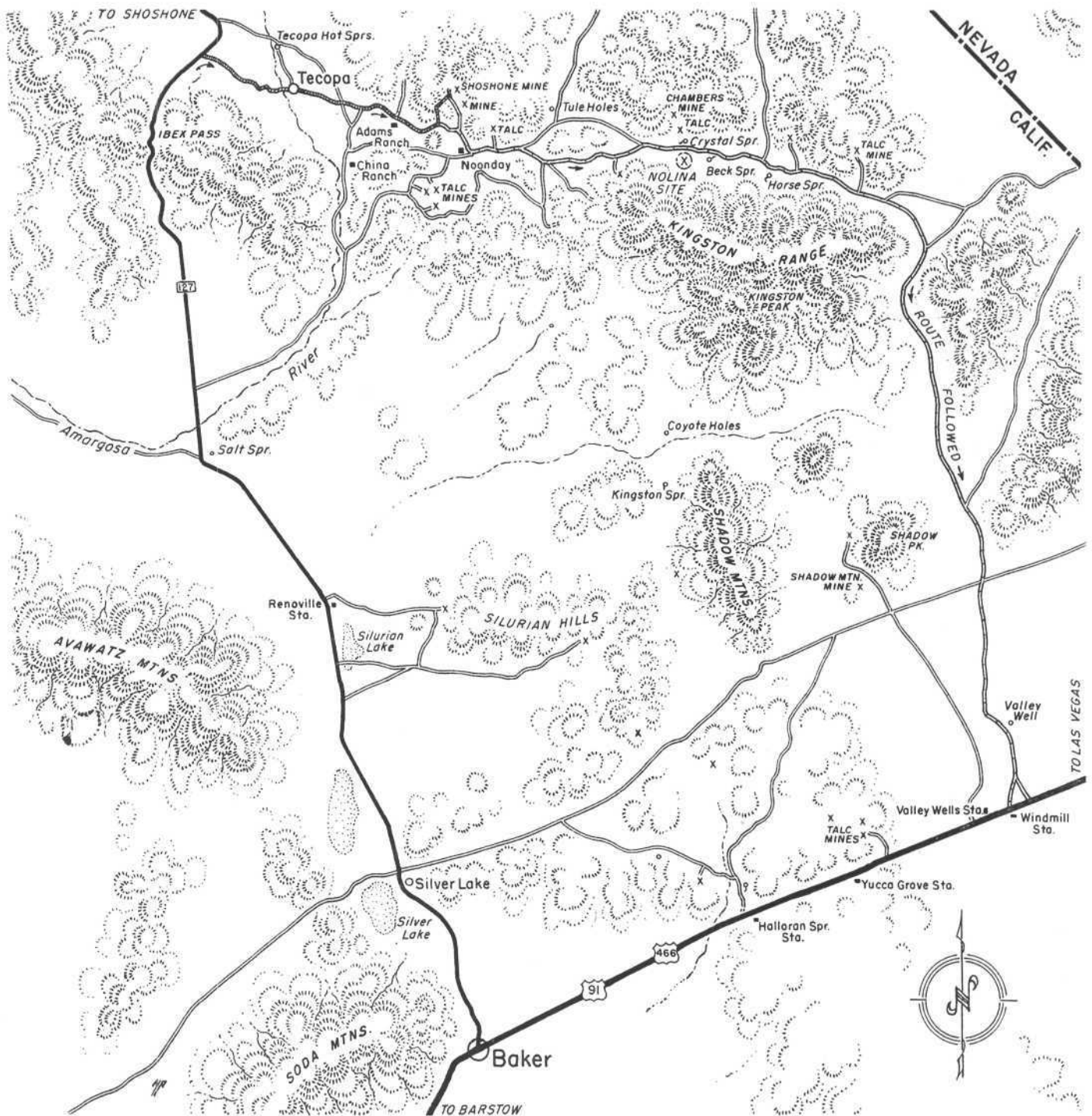
Writers must be prepared to supply confirmation as to the authenticity of their stories. Only true experiences are wanted.

All stories must be essentially of the desert, and the scene is limited to Arizona, Nevada, Utah, New Mexico and the desert area of California.

True names of those involved must be given, although with the knowledge of the judges, fictitious names may be substituted in special cases where there is reflection on personal character.

If the story has appeared previously in print, this fact and the time and name of the medium in which it appeared should be given.

All readers of *Desert Magazine* are invited to submit manuscripts. Unaccepted manuscripts will be returned if accompanied by return postage.



be entirely uninhabited. But when, a few minutes later, we ground our way to the top, there he was, waiting at the summit.

A new lead mine, he told us, was beginning operations nearby and an improved road was being built to it from the east. He was working there, and living just over the summit on the east side.

In the gathering darkness we dropped down into the little basin, crossed it and descended past a cattle camp at Horse Spring.

Emerging into the northern part of Valley Wells Valley, we were pleased to find (as the Auto Club map predicted that we would) a graded road.

But after a mile of it, we would gladly have exchanged this evidence of modern civilization for some of the more primitive roads we had traveled. Heavily-laden ore trucks, pounding over it at high speed, had created the worst case of washboard that it has ever been my misfortune to travel. The corrugations were deep, and there seemed to be no speed between 6 and 60 that did not loosen the bolts of the car and the teeth of its occupants.

For an eternity, we vibrated our way through the darkness south through the long valley. Magnificent Joshua trees saluted us with their twisted arms; and their blooms, shining white in the headlights and par-

ticularly luxurious in this driest of years, invited our further dallying. But we drove steadily on. At last our patience was rewarded, and we saw, across our path ahead, the long line of lights of cars on U.S. 91, descending the long grades from Clark Mountain and Yucca Station to Valley Wells.

And eventually we were just one of them, driving homeward on the highway—but differing from the rest in that we carried with us the memory of the seldom-seen lilies of Kingston Pass — so isolated in their mountain cranny, yet so magnificent in their pristine beauty.



PICTURES of the MONTH

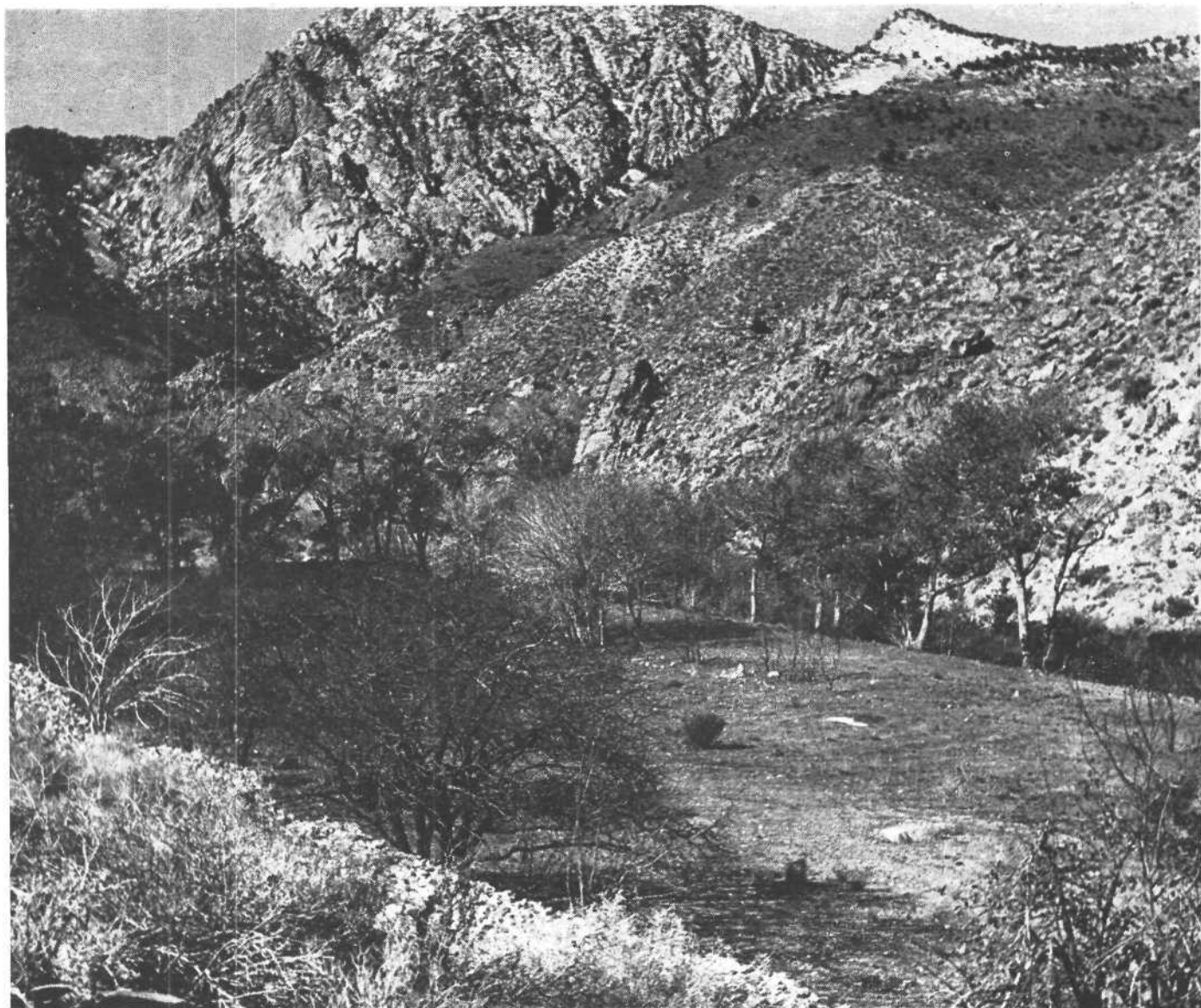
Tarantula . . .

Richard Randall of Pocatello, Idaho, was awarded first prize in Desert's January contest for this close-up study of a tarantula spider. The spider was photographed in Arizona with a 4x5 view camera, Super XX film, 1/10 second at f.32.

Ruin . . .

A burned out church ruin on the Hopi Indian reservation in Northern Arizona was photographed by Frank Meitz of Los Angeles, California, to win for him second prize in Desert Magazine's Picture-of-the-Month contest. Meitz used a 4x5 graphic camera, G filter, Super Panchromatic Press film, 1/50 second at f.22.





Hungry Bill's Ranch in Johnson Canyon, Death Valley. During the 1870s fresh produce was raised here and packed across the mountain to Panamint City, then a booming mining town.

Where Hungry Bill Once Lived

Hidden in a remote canyon in the Panamint Mountains of California is the little spring-watered ranch where once lived Hungry Bill, legendary member of the little tribe of Shoshone Indians in Death Valley. Recently, on a winter day, Ruth and Louis Kirk revisited this long-abandoned Indian hideaway in Johnson Canyon—and here is the story of what they found.

By RUTH E. KIRK

Photographs by Louis G. Kirk

Map by Norton Allen

MY HUSBAND, Louie, and I have found that it is futile to try to capture the feeling of Death Valley in a car, whizzing down the highway from one tourist attraction to another. So we've hit upon a plan. We select a particular spot that combines some of the beauty and interest of an area, then devote as much

time as is necessary to see and enjoy it thoroughly.

Recently our destination was the deserted ranch of Hungry Bill. The road to it would lead us along the floor of the valley and up a steep alluvial fan. The ranch is located in a canyon high up in the Panamint Mountains and we could enjoy hiking through

the always delightful desert mountain country. And, as a final clincher, we were completely fascinated with the idea that there could have been a ranch in the midst of this land reputedly so barren and devoid of life.

As we bounced down the dusty road that runs along the west side of Death Valley, we pieced together what we'd heard and read of Hungry Bill's Ranch. Its former owner was a Shoshone Indian who lived there until his death about 30 years ago. According to legend, he was dubbed "Hungry Bill" by the early miners of the region because of the enormous quantities of food he could stow away when he "happened" to arrive in camp at meal



time. He was a tall, quiet man who remained aloof from whites—except at dinner time. He lived with his family high up in the well-watered reaches of Six Springs Canyon, now commonly called Johnson Canyon. He had been given legal title to the land by the U. S. government in payment for his services as scout during the bloody Modoc wars.

Hungry Bill's people had been residents of the region for generations. In fact, his grandfather was the first Indian to be seen by the advance scout of the Bennett-Arcane emigrant party which came through Death Valley in 1849.

William Lewis Manly was ahead of the main party when he came upon the old man near the mouth of Furnace Creek Wash. In his journal, Manly reports that at first he took the aged native for a mummy, but when he found him alive and crippled with a broken leg he did what he could to make him comfortable. Three quarters of a century later, when the In-

dians told the story to Ray Goodwin, superintendent of Death Valley National Monument, they pointed out that it was Manly's courtesy to the old man in giving him jerky and water and "making kind noises" that had kept the Shoshones from attacking the emigrants during their encampment in the valley.

The ranching enterprise at Hungry Bill's was initiated by a group of Swiss men during the boom days of Panamint City. Today Panamint is a ghost, but in the 1870s it was a flourishing mining town, having grown quickly after the first discovery of gold in 1873. The town's supplies were freighted across the desert from Los Angeles, and fresh fruits and vegetables were unheard of until the Swiss ranchers began cultivating the land in Johnson Canyon and transporting fresh produce over the crest of the mountains to the mining families at Panamint. Fruit trees also were set out, but they did not bear during the brief life of the boom-bust town.

We turned off the main road into the ruts which lead up Johnson Canyon. At a fork in the canyon, we abandoned the car and, lunch bags in hand, began to hike up the north branch.

We hadn't gone more than a mile or two when we came upon an old arrastre, or drag-stone mill. Half a mile farther we stumbled over another lying amid brush and stones on the canyon floor. These arrastres—the word is Spanish and means "mining mill"—were used by early Mexican and American miners to crush their ore. A basin a foot or two deep and up to 12 feet in diameter was dug, and bottom and sides were lined with flat stones. A heavy, flat-bottomed stone was suspended from a wooden beam extending across a central pivot shaft. As the beam was pulled around and around, usually by a burro, the stone crushed and ground the ore. Water was added, and when the ore was sufficiently pulverized the muddy mixture was let out into a trough where the gold was amalgamated with quick-silver. It was a crude process, but simple enough to be used in the most isolated areas and fairly successful with free milling ores. Both of the arrastres in Johnson Canyon are fairly well preserved, the upper one still showing scour marks on the stone lining.

Not far above the second arrastre the canyon narrows to about 15 feet and the stream becomes a merrily babbling brook, then two brooks as it divides in its swift journey down the mountainside. Willow and desert baccharis form dense growths here, and in a few damp recesses I found maidenhair fern and Parry's Cloak. From time to time we enjoyed a nibble of peppery watercress or a sprig of mint plucked from its green bed along the stream bank. Creosote bush grows along the canyon sides. An occasional catsclaw bush—trying perhaps to live up to another common name, "wait-a-minute"—reached out to impede our progress.

There is a trail of sorts, but it is a horse trail and aimlessly zigzags up and down the wash, in and out of the creek. The problem we faced in Johnson Canyon was one hard to associate with hot, arid Death Valley. Impenetrable thickets obstructed our way, our boots were wet from crossing and recrossing the stream, and every now and again we cracked through the ice scum which covered still, swampy pools.

The canyon widened a bit and we began to notice stone walls running near its floor and parallel to its sides in such a manner as to block off all

tributary ravines. Occasionally an area would be completely enclosed. The walls are low, no higher than four or five feet, and of sturdy unmortared construction. Thousands of feet of them meander for miles up and down the canyon. We don't know who went to all the trouble of constructing them or why, but we thought it likely they were put up by the early tillers of the wild canyon to keep stock out of the fields and yet confined within convenient reach of the ranch. Similar walls are found in and about the ruins of Panamint City.

Rounding a bend three or four miles above the fork where we had left our car, we were greeted by two burros and our first glimpse of Hungry Bill's Ranch. A fairly level five-acre field was enclosed by the now familiar stone walls. Along the south side stood the fruit trees—apricots, pears, figs, three varieties of peach and four varieties of apple. At the west end were a walnut grove and a grape vineyard. It was winter, and the trees and vines were bare, but we had been told that they still bear profusely in season. Hungry Bill's grandson makes occasional trips to the ranch to pack some of the fresh fruit down to his mother and sister who live on the valley floor; but usually the harvest just falls to the ground to provide a feast for the coyotes. In spring the ranch must be a beautiful place, with the trees all in



The upper arrastre in Johnson Canyon. Scour marks indicate the little mill saw heavy use. The drag-stone, its cable still attached, lies in the basin behind the pivot gear.

blossom—a fragrant garden in a harsh and bleak land.

Behind and to both sides of the field the precipitous slopes of the mountains close in. Snowy Sentinel Peak (elevation 9480 feet) towers over-

head, and Louie called my attention to the fact that we weren't far from the gap through which the fresh produce raised at the ranch had been hauled to Panamint City more than 75 years before. We decided to delay

On the hillside above the ranch is an abandoned wickiup, roofless dwelling of the Shoshone Indians.



eating our lunch in order to see as much as we could while the sun was shining down into the steep-sided canyon.

On the south side of the canyon, considerably above the field, we found an abandoned wickiup, the traditional brush house of the Shoshone Indians, seldom used today. The structure was slightly oval in shape, about 12 feet in diameter, five feet high and completely roofless—a testimonial to the delightful climate of desert mountains. Nearby was a leveled and slightly sheltered cooking area, and behind the wickiup was a small corral. One could scarcely ask for a more secluded and peaceful homesite, and there seemed to be all the necessities for a simple but full life.

The floor of the dwelling was littered with discarded clothing, a toy or two, a worn out basket, a Sears Roebuck catalogue and a box containing a few kitchen oddments. Several smooth sticks stuck out from the wall at various heights, but they now were bare of the items which must have hung conveniently from them at one time. A paring knife and a pancake turner were thrust into the wall in seemingly haphazard but unquestionably handy fashion. Except for the unique wickiup construction, the over-

all impression was much like that of many other deserted dwellings to be found in the Panamint Mountains. They all combine an assortment of belongings, and the walls are almost invariably studded with nails and pegs used for informal storage.

Upon closer inspection, however, I noticed something which clearly distinguished this from a white home. Supported by twigs which protruded from the wall were half a dozen long, stout reeds of the type which present day Shoshones say were used by their ancestors as arrow shafts. On the floor underneath was a chip of obsidian. Bundles of basket material lined the walls. There were scraped willow wands sorted according to diameter into eight separately tied bunches and several coils of split willow ready for use. On a low shelf lay some loosely bound horse or burro hair of various colors and a length of hair rope, beautifully braided with two strands of light colored hair and two of dark.

While I admired the wickiup and mused over its contents, Louie investigated the upper canyon and came back with the report that the ranch area extended at least half a mile beyond the first field. He had counted three major fields with irrigation ditches and plow marks still in evi-

dence. In one walled field he had found the old plow and near it some tools and a bag of horseshoes. Two untanned hides hung in one tree; wrapped in canvas and suspended from another was what appeared to be a complete harness rig. He found some seeds, too. There were melon and squash and three kinds of corn.

Time had slipped away from us, and we knew we must start back. We had thoroughly enjoyed our brief visit to Hungry Bill's. It was comforting to know that the little ranch with its colorful history is within National Monument boundaries, where its scenic, historic and scientific values can be protected and preserved for the enjoyment and appreciation of other desert hikers.

We climbed over the wall which bounds the lower edge of the first field and paused for one last look at Hungry Bill's, then turned away and rounded the canyon bend which blotted it from view. At the wild-grown ranch, lying unmolested in its high canyon as silent witness to the passing of the years, we felt we had savored a bit of the true flavor of the real Death Valley.

PAUL PALMER PRESIDENT OF DEATH VALLEY 49ERS

Plans for next season's annual encampment of the Death Valley 49ers were initiated late in January when directors of the organization met at the Circle J. Ranch near Newhall, California, and elected officers for the coming year.

Paul Palmer, Newhall attorney, who as production chairman was largely responsible for the successful encampment held in Death Valley during the Armistice weekend last November, was the unanimous choice for president, to succeed Ardis Walker of Kernville who served for the past year.

First vice president is George Savage of San Bernardino, and second vice president is John Anson Ford, Los Angeles county supervisor. Arthur W. Walker will continue as treasurer for another year, and also Joe Micciche as secretary.

Dr. F. W. Hodge, director of Southwest Museum, and Horace M. Albright, former director of the National Park Service were named honorary directors of the 49er organization.

Paul Gruendyke of Los Angeles was selected as production manager for the 1953 encampment, the dates of which are to be announced later.

A special committee was named to make recommendations as to the policy of the 49ers with respect to the wild burros in the Death Valley region, now the center of a legislative controversy in Sacramento.

Prizes for Photographs

March this year will offer exceptional opportunities for pictures because excessive rains during the winter have given the promise of an extra colorful wildflower display. The flowering season will start on the desert lowlands in early February, and as the season advances, the peak of the flowering will be seen at higher and higher levels. Flowers are just one of many acceptable subjects in Desert Magazine's Picture-of-the-Month Contest. Any subject which is essentially of the desert is eligible, and all readers of Desert Magazine are invited to send in their entries:

Entries for the March contest must be in the Desert Magazine office, Palm Desert, California, by March 20, and the winning prints will appear in the May issue. Pictures which arrive too late for one contest are held over for the next month. First prize is \$10; second prize \$5.00. For non-winning pictures accepted for publication \$3.00 each will be paid.

HERE ARE THE RULES

- 1—Prints for monthly contests must be black and white, 5x7 or larger, printed on glossy paper.
- 2—Each photograph submitted should be fully labeled as to subject, time and place. Also technical data: camera, shutter speed, hour of day, etc.
- 3—PRINTS WILL BE RETURNED WHEN RETURN POSTAGE IS ENCLOSED.
- 4—All entries must be in the Desert Magazine office by the 20th of the contest month.
- 5—Contests are open to both amateur and professional photographers. Desert Magazine requires first publication rights only of prize winning pictures.
- 6—Time and place of photograph are immaterial, except that it must be from the desert Southwest.
- 7—Judges will be selected from Desert's editorial staff, and awards will be made immediately after the close of the contest each month.

Address All Entries to Photo Editor

The Desert Magazine

PALM DESERT, CALIFORNIA

Mines and Mining

Yerington, Nevada . . .

Anaconda Copper Company is moving a lot of dirt at its Weed Heights operation, across the river from Yerington. More than 2,500,000 tons of overburden were removed from the copper site during the past year—and about 7,500,000 tons await shovel and truck. A. E. Millar, general manager for Anaconda at Weed, reports development work is on schedule. — *Pioche Record*.

Lovelock, Nevada . . .

Custom milling at the Toy tungsten mill of Trojan Mining and Milling Company got under way early this year. The plant has a capacity of 100 tons a day.—*Territorial Enterprise*.

Phoenix, Arizona . . .

Arizona again topped the nation in the combined value of copper, silver, gold, lead and zinc production in 1952, according to a Bureau of Mines report. Arizona mines' output of these metals was valued at \$219,656,810, leading Utah, second-ranking state, by approximately \$50,000,000. The state again was first in copper production, was fourth in silver, fifth in gold, sixth in lead and seventh in zinc.—*Arizona Republic*.

Randsburg, California . . .

A new tungsten milling plant is under construction here by Earl Thede of Los Angeles and H. C. Brown of Johannesburg. The mill is designed to recover good values from an epidote type of ore that requires special treatment to avoid too much loss as "milk." Automatic feeders from storage bunkers are expected to enable two men to operate each shift, handling about two tons of scheelite ore per hour.—*Randsburg Times-Herald*.

Henderson, Nevada . . .

A simple chemical test which will determine the titanium contents of rocks has been devised by Leonard Shapiro of the United States geological survey. The usual procedure of field geologists is to identify rocks tentatively by general appearance, then send them to laboratories for further analysis—which takes time. The Shapiro test is simple, takes about 10 minutes and costs less than 10 cents. Concentrates of titanium oxide from zero to two percent can be detected, and high concentrates can be estimated.—*Pioche Record*.

Albuquerque, New Mexico . . .

Negotiations are in progress to re-activate the mica mine of Great Western Mining Company at Mora. Bob Katson, president of the firm, said there was no truth to a rumor that the property might be placed in the hands of a receiver. "It has been in financial straits," he admitted, "but more capital is going into the business and we have reorganized, so I think everything will be straightened out." — *New Mexican*.

Moab, Utah . . .

Charles A. Steen, chief geologist for the Utex Exploration Company, reports that a 73-foot shaft has been completed down to a body of pitchblende ore in the Big Indian area. Diamond drilling discovered the vein, the first of this type ore found anywhere on the Colorado Plateau. Assays indicated 5.08 percent U308 and 9.81 percent V205.—*Mining Record*.

Wenden, Arizona . . .

With the opening of the government's new manganese sampling plant and purchasing depot at Wenden, long-dormant manganese mines in northern Yuma and southern Mohave counties were expected to go into production. The mill can handle 400 tons of ore daily and has storage area for 6,000,000 units—about 400,000 tons—of manganese ore.—*Arizona Republic*.

Washington, D. C. . .

The relations of certain geologic features to carnotite deposits in the Colorado Plateau have long been recognized by miners and geologists. The U. S. Geological Survey recently undertook a large-scale program of diamond-drill exploration on behalf of the Atomic Energy Commission, appraising and recording 2500 drill holes as guides in prospecting for carnotite. A study of these geological logs led to the following conclusions: 1. Most carnotite ore deposits are in or near the thicker, central parts of sandstone lenses; 2. Sandstone in the vicinity of ore deposits is colored light brown, while a reddish color indicates unfavorable ground; 3. Near ore deposits the mudstone in the ore-bearing sandstone has been altered from red to gray; 4. Sandstone in the immediate vicinity of ore deposits contains more carbonized plant fossils than do the same beds away from ore deposits.—*Mining Record*.

Elko, Nevada . . .

New World Exploration, Research and Development Corporation is operating the Aladdin Mine near Elko, shipping about one carload a day of lead-silver-copper ore to the American Smelting and Refining Company's lead smelter at Selby, California. Diamond drilling is underway to outline additional tonnages for future shipment.—*Humboldt Star*.

Las Vegas, Nevada . . .

A 40-inch width of galena ore has been discovered below the 135-foot level at the Lead King mine, located about 14 miles north of Las Vegas. This latest strike establishes an additional reserve of approximately 50,000 tons of millable ore estimated at values in excess of \$20 per ton. The total ore reserve is valued at \$2,000,000. — *Pioche Record*.

Oracle, Arizona . . .

Exploration work at the Morning Star tungsten mine in the Old Hat mining district was started by Nikas Mining Company, after the Defense Minerals Exploration Administration granted the company a \$60,000 loan for the project. Mining is from tunnels and open cuts, and the ore vein is said to run from five to 18 feet in width.—*Humboldt Star*.

Reno, Nevada . . .

Nevada copper output rose substantially during 1952, preliminary Bureau of Mines figures show, but lead and zinc failed to reach production figures attained in 1951. High cost operations and fluctuating price conditions were partially responsible for the lead-zinc decrease. Combined value of the production of gold, silver, copper, lead and zinc was \$40,013,850, three percent below last year's total.—*Battle Mountain Scout*.

Grand Junction, Utah . . .

Construction of a pilot plant at Grand Junction, to develop new methods for extracting uranium from ores found in the West, has been announced by the Atomic Energy Commission. The plant is being built by the American Cyanamid Company, which also will operate it for the AEC. Operation is scheduled to begin March 1.—*Moab Times-Independent*.

Ely, Nevada . . .

Kennecott Copper Company has ordered the most powerful copper mine hoist in the United States for operation of its Deep Ruth Mine. When operating from the maximum depth, the hoist will be capable of delivering 12 tons of copper ore to the surface ever 72 seconds.—*Humboldt Star*.

LIFE ON THE DESERT

By EDITH O. NEWBY

DONALD HAD not caught on well in school. There had been a broken home, and out of the confusion of this experience had come resentment.

We were friends, and we wondered if a change would help. We were going West and perhaps a few weeks in Utah and Arizona would provide the tonic this young man needed. He was a likeable boy.

He accepted our invitation with eagerness—but he had been so warped by tragedy and deception that the pleasure of anticipating his first long journey away from home was tempered with wariness.

We soon discovered that he did not believe in many of the lovely facets of Nature—things that we take for granted. One of the phenomena which aroused his skepticism was an echo. He learned about echoes at Mesa Verde National Park. We had stopped to take pictures, and our son, contemplating the myriad canyon walls, casually wondered what kind of an echo they could produce. Walking to a likely spot he cupped his hands and shouted, "Don-ald!" Clearly and in rapid succession the boy's name came back three times. Donald looked up in surprise from a comic book. At once he was suspicious. Noting that our son stood at a little distance, he exclaimed, "Aw, he's just faking that!"

We urged him to try it. On the same spot he cupped his hands and shouted across to the canyon wall, "Ne-al!" Clearly and rapidly my son's name came back three times, the last one soft and friendly.

For a few seconds no one said anything. Then I heard Donald's loud whisper, "Well, gee whiz!" We sensed the wonder within him as he realized that the rocks had seemed to welcome him. We stood there in that profound silence that settles again on the desert after it has been ruptured by noise. He was shouting into canyons often after that, and the comic books lay neglected.

At the cliff dwellings we joined a party just going into the Spruce Tree House. In telling of these ancient people, the guide requested the utmost care in walking about the ruins that there be no further injury to crumbling walls. At one spot I was about to step onto a wall I could not scale, when Donald reminded me of the guide's admonition. "It would be a

shame" he said gravely, "if some day there wasn't any more of this left. It's pretty old, you know."

I was doubly careful after that. Nothing could have induced this boy to dig his name into anything or to chip himself a souvenir, although he would gladly have purchased a fragment had they been for sale. He was delighted with the illustrated history booklet we bought to add to our information about these ancient folk. Occasionally he would read aloud, stumbling frequently. But he was reading by his own choice, probably for the first time. Once, to my utter amazement he said, "You can see I have trouble with my reading. Maybe you could help me with it before we get home?"

The museum thrilled him. He was astounded to learn that these remote people had had arthritis and impacted wisdom teeth. He began to wonder about their religion—"But how could they know about God if they didn't have any Bible?" he asked.

Maybe, I said, they knew Someone Wonderful had made the sun and the moon and the cool earth.

"I'll bet they were scared of thunderstorms though!" he reasoned. "Lightning must have looked like hot swords plunging at them." He was learning to think—and imagination was being born.

It was at the Goosenecks near Mexican Hat, Utah, that the accident occurred. We were preparing to leave. Donald was leaning on the car door, the doors were slammed shut and there was a scream of pain. When his hand was released, the added agony tore at us in our helplessness.

For once we New Yorkers couldn't push a button! We were alone on the desert with a first aid kit that covered everything but this. The boy sagged, white and trembling against my husband who held the arm aloft to relieve the blood pressure.

At Monticello, 65 miles north, there was a two-room hospital. We had just come from there. Bluff, where we had left our son at Rev. Liebler's mission, was only 25 miles; but they had no doctor. We would have to continue 60 miles south to Kayenta; surely there would be a doctor there!

Then I looked at the road map and saw Mexican Hat. I was overjoyed. A town! There would be at least a druggist, stores, folks that knew. True,

Before our trip into Monument Valley that summer of 1951 I would not have believed that the desert in a few short weeks could completely change the attitude-toward-life of a city boy. And yet I saw it happen. Where men and gadgets had failed, Nature stepped in—and here is the story of the miracle that took place.

we had been given the impression that there was nothing until you came to Kayenta. But folks just hadn't thought about Mexican Hat. It was on the map, wasn't it? And it was only 10 miles.

Donald slept now, weak after the acute pain had changed to throbbing. I felt encouraged when he awakened once, looked down over the edge of the cliff road and said feebly, "Oh, boy!" After a while we descended another winding, rocky trail to find the San Juan ahead. Just beyond a solitary house and an abandoned mine stood the trading post. I asked how far to Mexican Hat.

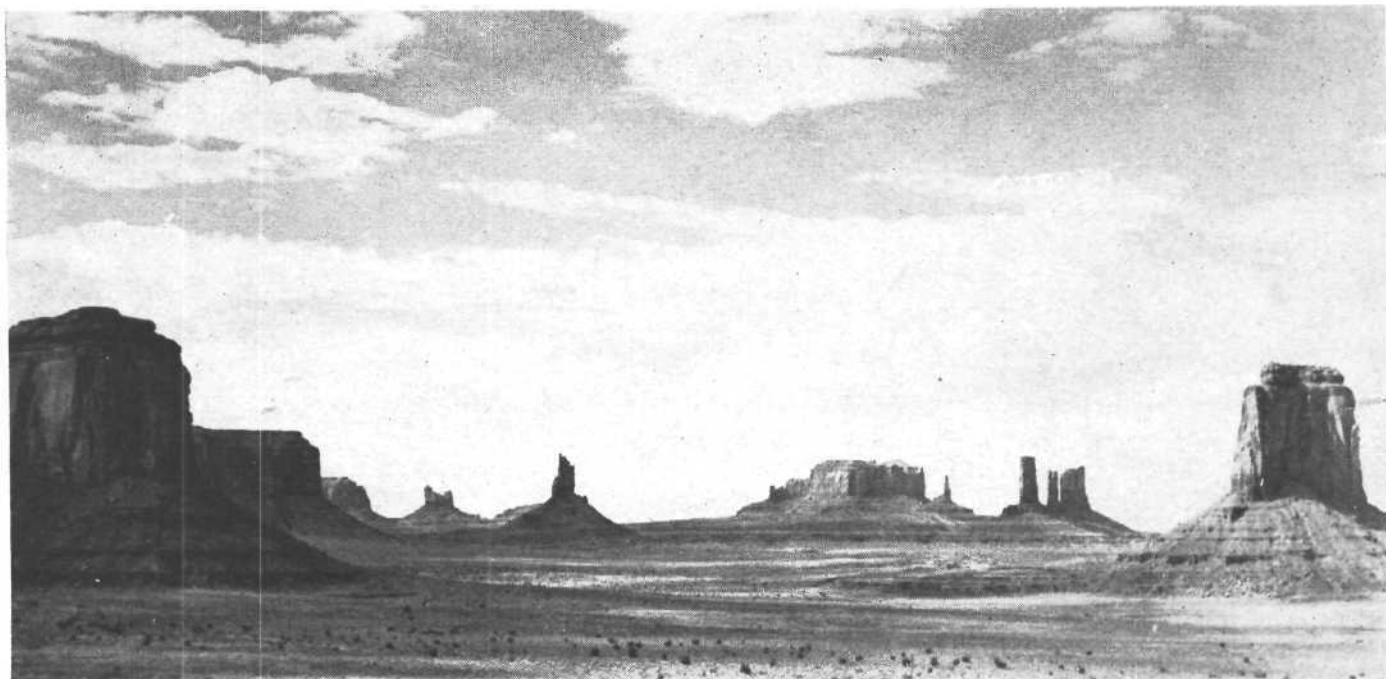
The trader stunned me as he said serenely, "This is Mexican Hat."

I stared bleakly around at space—and one lone horseman on the horizon. The house was Nevills' lodge and the trader suggested that Mrs. Nevills, the riverman's mother might be able to help. She received us out of the blistering sun and first she gave us cool, clear water. Donald drank greedily, sighed, "Oh boy, is that good!" and drank again.

"I guess I never looked at water," he said as it sparkled in the glass. Water, they had pounded at him in school, "is H₂O without color, taste or odor," and like all city folks he had poured more down the drain than he had ever drunk. Now he knew that water was delicious, that in desert country it was a gift. Mrs. Nevills talked about the road to Kayenta and thought we might find a doctor there; it was the only thing to do. Kayenta was 50 miles away.

Almost half of the distance accomplished, we came upon directions to Goulding's trading post. We knew about Harry Goulding. Interesting people were always writing about the place—scientists, photographers, explorers. There might be a doctor. We turned across the sand, and before long the boy sat up, peering intently ahead. Then he reported he saw stirrings up on the ledge of a distant butte. Goulding's! Shortly we were making the last climb to the famous little group of buildings in Monument Valley.

There was, alas, no doctor, but some guests told us that there was a missionary nurse, "just back down the road and up that little canyon. She'll be glad to fix him up, then come back here and rest a while." This had



Monument Valley photograph by George E. Barrett.

a sweet sound to us, hot, tired and worried as we were.

The last part of the trek up the canyon was so steep we took it afoot. Half way up I heard Donald whisper, "Oh, look!" Winding slowly up the trail behind us came a group of mounted Navajos, a mother carrying a cradle board, and two small boys, each on his horse. "Why, it's real! It's like a picture." The boy forgot his pain completely as he stood looking after the colorful little caravan making its way to a nearby hogan.

Then we were received by the Walter children and introduced to their missionary parents. Serenely and expertly Mrs. Walter treated the bruised fingers and then this charming family turned our visit into a treasure hunt. Mr. Walter got us all into the jeep station wagon, drove still higher up the canyon, and there Donald received his first instruction in rock identification. As a parting gift the Walters gave him two beautiful stones, streaked with uranium and vanadium.

Magic words! The boy seethed with excitement. Later that night he wrote his mother—for his right hand was the good one—about this experience. Writing had generally required compulsion. But this was different!

It was on the way down the hill that the lizard incident occurred. In the city there is no room for creeping crawling things. A lizard would not last long in Kansas City; it would have a swift and even cruel end.

Suddenly the boy was bent over studying the scurrying creature, delight in his face as it scurried over the rocks and into a stone pocket, then turned swiftly and peered out, like

a small scout for his tribe. The boy did not snatch at it, nor try to impede its course, but watched it intently, then looked up at me and smiled. "That's a chuckawalla," I guessed, and once back at the car he put the word down in his note book, and next to it printed laboriously, "lizerd."

That night, long after he was asleep, my husband and I stood on the porch of the trading post, watching the winking stars countless thousands of light years away. Suddenly I felt a warmth for everything in the dark and silent desert. Had Donald, in a flash, felt this about the lizard? Had sun, sand and the serenity of desert folk awakened what the city had nearly strangled?

Next morning the Gouldings took us down into Monument Valley, a story book trip "with colored pictures," said Donald.

That night the boy who hated to write was writing again, agonizing over words he could not spell, but struggling to tell his story.

For some days after that he was steadily occupied — numbering and classifying folders and picture cards, making simple notations, because, he inferred, he might be asked to tell the younger children of his Sunday School about this trip. He would let us know.

We were home again. The months went by and we did not hear from Donald. Had he forgotten all he had seen? Had nothing been permanent? Occasionally others wrote that he was working, liked his job and that there had been vocational and medical help. We had just about given up hope when the letter came. It was copiously mis-

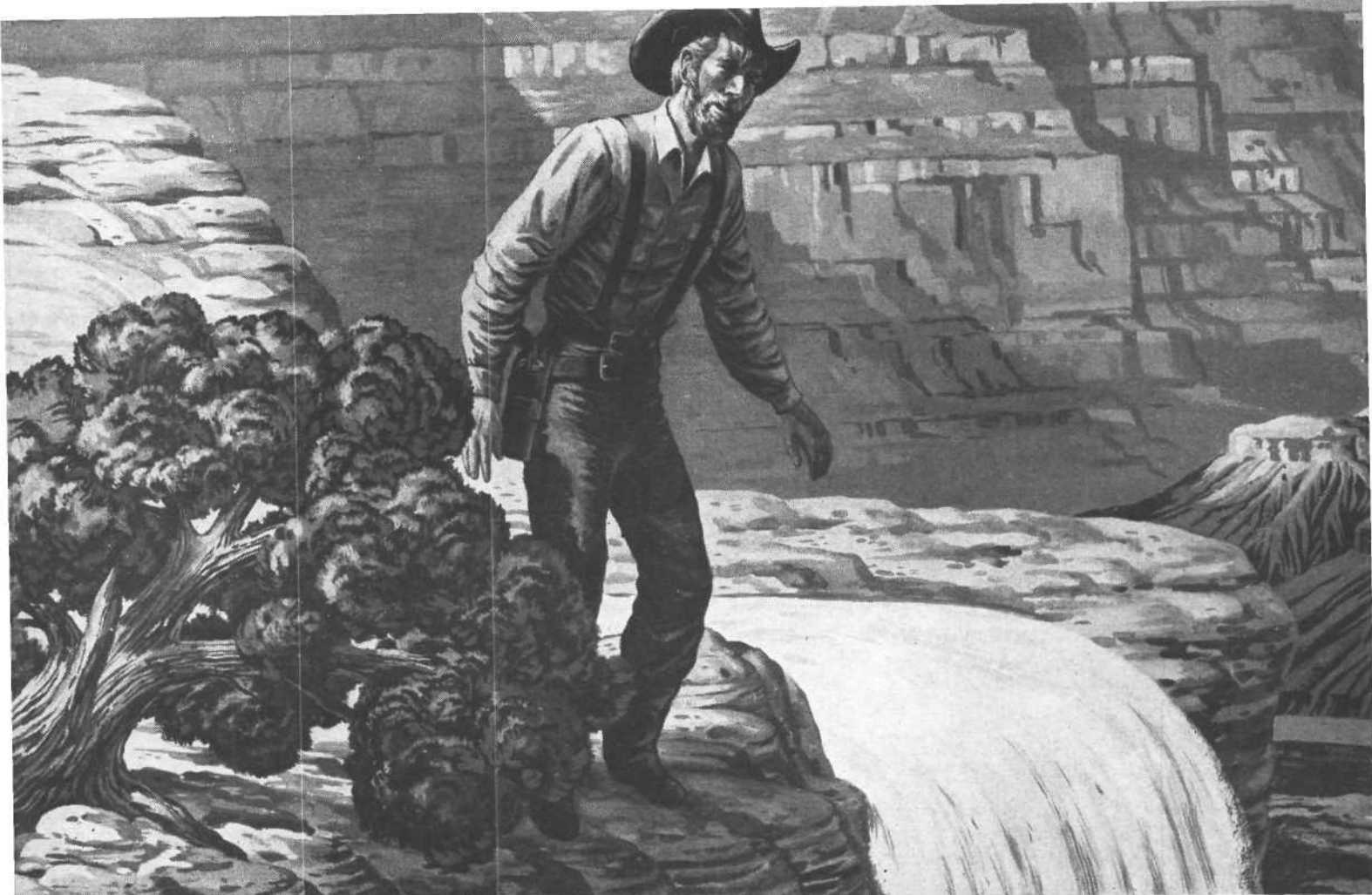
spelled, but there were two full pages of cheerful news, some excitement over flying saucers and a grave request for my husband's opinions in the matter!

We saw him this summer within a happy family circle and there was much enjoyment of our colored slides which, of course, the boy had not seen. He relived the trip with great gusto. Then to our surprise he brought forth the *Desert Magazines* we had sent him. They were in proper chronological order with articles and illustrations marked and noted. He informed us with pride that the aircraft company he works for will give him a vacation next year and he would like to fly out to Monument Valley. "With all that heat," I exclaimed, "and sand and no radio and maybe a busted hand?" He laughed, "Aw, that's nothing—there's lots of other things!"

And it is these other things I cannot explain to people. When my New York friends say — sitting with the telephone at one hand and the television at the other—"What in heaven's name do you see in that country, sand and sun and heat? And when you're camping no bath for days on end. Don't you miss the news, and television and department stores? Don't you miss the city?"

I am trapped for an answer, because I don't miss the city, and because I've seen and felt a hundred wonderful things that cannot be fitted into city chatter. The most wonderful thing of all was when I saw Nature bring a boy's inner self to life.

No, I cannot answer because they wouldn't understand.



Discovering it was impossible to get behind the waterfall from where he stood on the west side, Long Tom climbed up and around the rocky ledge, wading through a foot of water above.

WEST OF the old Tanner Trail in the Grand Canyon is a small slope where gold nuggets can be picked up by the handful. The unknown discoverer of this bonanza cached a small fortune of them in the dark recess behind a waterfall. The man who, 10 years later, found the sackful of nuggets and brought out a few was "Long Tom" Watson, a prospector who spent most of his 70 years in northern Arizona.

Watson was a stringy, bearded, taciturn individual who wandered alone in search of precious metals. He worked the remote, little-known areas of north-central Arizona from thaw time until snow came in the winter. When snow and ice covered the ground and filled the ravines, he retreated to Flagstaff until spring.

Late in November of the year 1910, Watson came to town as usual and set up housekeeping in an abandoned shack. Cleaning the place of debris and refuse, he came across several boxes of old letters, seed catalogues and newspapers. These he saved, thinking they would come in handy to start fires on cold mornings.

One January day, many weeks later, he picked up a batch of old letters to stuff into the cook stove's fire box. He happened to notice one that had

not been opened. Curious, he laid it aside until the fire glowed and then examined it. The blue ink on the cover had become wet and had blotted, rendering the name and address unreadable. The flap was still sealed, and the envelope bore a Williams postmark.

Watson opened the letter and found a folded sheet that had been torn from a piece of brown wrapping paper. On one side was a message, and on the other, a map.

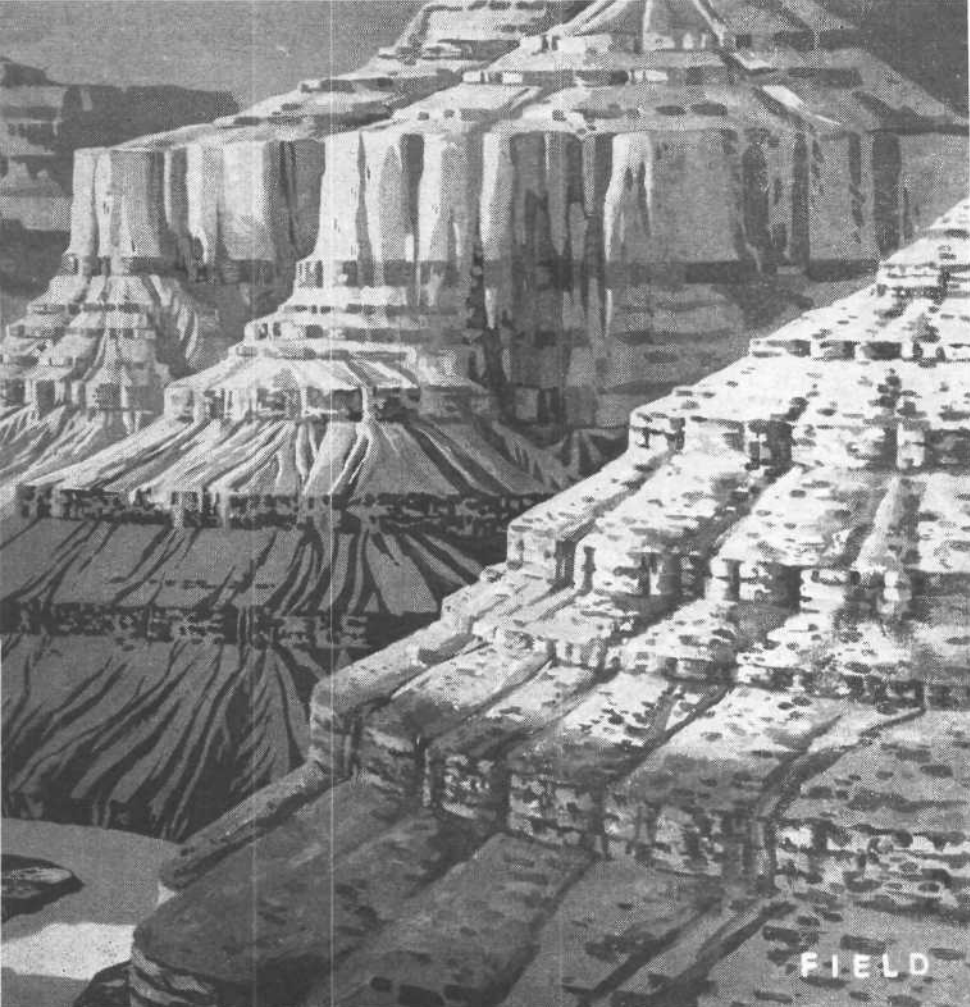
The letter was addressed only, "Dear Brother." According to its contents, the writer was a prospector and had just been brought to Williams from the Grand Canyon, suffering from gunshot wounds. "I had found ground covered with gold nuggets in the canyon," it read, "and had collected an ore sack full of them preparatory to coming out. That night, two men I had suspected of following me rode into camp."

The writer had hidden his sack of gold nuggets a short distance away, under some rocks near a 22-foot waterfall. Making an excuse to leave camp, he went to his cache and swung the sack of gold down and over through the edge of the waterfall into the mouth of a small cave behind it. His reasoning was that if the two prowlers meant

him no harm, he could easily recover the sack in the morning. However, on returning to camp, he found the two men ransacking it. A gunfight started, and although the writer assured his brother he had wounded one of the intruders and had driven them both off, he himself was wounded seriously in two places. He managed to reach his burro, pulled himself up on the animal and sought to flee to Bright Angel Trail. But he fell unconscious just short of his goal. Two forest guards or rangers found him there and carried him to a doctor.

Heeding the doctor's warning that his condition was critical, the prospector wrote to his brother, giving a description of the country around the waterfall and drawing a map. He asked that the brother come at once to Williams, a town 33 miles west of Flagstaff. Apparently the brother had already departed Arizona when the letter was written, and he never received it.

Watson considered the roughly sketched map. He believed he could locate the waterfall. But, he asked himself, suppose the writer of the letter had recovered and had retrieved his gold? The letter was dated May 28, 1904—six years before. Almost anything could have happened since.



Somewhere in the depths of the Grand Canyon of the Colorado River is an elusive waterfall—and this waterfall is the landmark that will guide you to a fortune in gold nuggets—if you can find it. Twice this gold has been found—and twice lost, according to the story that is told around Flagstaff. And if the story is true, the nuggets are still there awaiting another discoverer.

By GLADWELL RICHARDSON
Illustrated by Ted Littlefield

But the scent of precious metal was too strong, and Long Tom decided to follow this lead. He traveled to Williams by train and there spent several weeks seeking and following clues. Finally he met a Dr. Rounseville, who remembered attending a fatally wounded prospector more than six years before. The dying man, who had been brought to Williams from the Grand Canyon, had given no name, was unknown in Williams and had been buried in an unmarked grave in the local boothill. No inquiries had been made about the man, and no brother had shown up either to visit him or to bury him.

Watson returned to Flagstaff. When the ice and snow began melting in the spring, he entered Havasupai Canyon, outfitted as usual with a burro and riding horse. For some reason he first believed the map indicated this canyon where the last of the Havasupai Indians lived. No cardinal points were marked on it, and the map consisted of a line indicating the bottom of a canyon with side canyons reaching off the main floor. The site of the waterfall and the area where the gold had been discovered were detailed out of proportion to the rest of the sketch. But there were several important waterfalls in Havasupai, and Watson began his search there.

The Havasupai Indians were curious about him, friendly and spent

hours visiting him. This caused Watson to slow his search, wandering around aimlessly and seeking behind waterfalls only during those times when he knew himself to be alone. Thus the summer passed, and with the coming of the winter of 1911 he had advanced into the Grand Canyon proper. The farther he searched, the more he became convinced that the map actually did indicate the Grand Canyon, the bottom line representing the Colorado river through the gorge.

Winters in the canyon were not severe. Watson could search as easily then as in the summer. But he decided to take a break and try to learn more about the canyon country from Captain John Hance and others who reputedly knew the Grand Canyon area like a book.

Waterfalls in the mighty gorge? Yes, they told him, a few. They were located far apart, and Watson spent all that winter seeking them and examining the water-worn caves behind them.

In February, 1912, the prospector was forced to leave his search for a while and go in to Flagstaff for supplies. He obtained a grubstake and returned. It now occurred to him that perhaps the waterfall he was seeking was active only during the thawing time of spring and early summer. If this were true, then the greater part of the year the waterfall would be a

dry ledge overlooking some temporary water course.

This theory not only opened up a greater territory to search, but it also increased the difficulties of finding the right place. Undaunted, Watson resolved to check every possibility between Havasupai Canyon and the junction of the Colorado and Little Colorado rivers. It was a stupendous undertaking. Yet Watson continued the search, abandoning it briefly only when hunger forced him.

By June, 1914, Watson was discouraged. But he started out once more, heading east for the old Tanner Trail. The trail descended from the base of Moran Point and crossed the river to the "strip." It was better known as Horse Thief Trail, as horse thieves used it to cross the canyon with stolen stock.

Around four o'clock in the afternoon, Watson heard the sound of distant water. It came not from the river, but from the south, where he knew no water to be. He was further astonished to see an unexpected waterfall about 700 feet up the wall of the gorge.

The prospector paused, debating whether he dared waste more time. To explore the waterfall would mean spending another foodless night in the canyon. Then he remembered the date

of the old letter—it was at this time of the year that the dead man had hidden his nuggets. This waterfall could be one which appeared only in the spring and summer.

Watson dismounted and, leaving his stock, climbed slowly along the sloping rock-studded wall. As he approached, the waterfall took on height. When he stood beside the projecting ledge over which the bluish colored water fell, he observed that it was at

least 22 feet high and perhaps 10 or 12 feet wide. Watson tested the probability of a cave entrance behind it by tossing a good-sized stone through the thin sheet of water. It disappeared.

His interest quickening, the prospector surveyed the scene. It was impossible to get behind the fall from where he stood on the west side, so he climbed up and around the rocky ledge, wading through a foot of water above and finally working his way to

a position on the east. One corner of a dark recess behind the sheet of water was exposed.

Proceeding carefully, he managed to get from the rock wall to the side of the falls, about 15 feet from the bottom, where a recessed ledge showed. The position was precarious, but in his anxiety to discover what lay behind, Watson took chances. By leaping recklessly he made it. He found himself in a dark, cool recess, bowl-shaped and graveled underfoot.

From a waterproof container he took a match and struck it on the rock floor behind the tumbling water. He looked down in the flickering yellow light and found his knees resting on a blanket of golden nuggets. The blood pounded in his head, but he quickly quelled his elation to examine the find further.

Watson estimated that a full bushel of nuggets had been in the original container, a leather ore sack. But rodents had gnawed that leather apart. Hardly bare scraps remained, and he would have to bring something to carry it away in. That would be simple in the morning, he thought. Work up this side with his stock, and then fill the cotton sacks carried on the burro. However Watson filled his pants pockets with the largest nuggets he could find by feeling in the dark. That done he stood up, turning to the spot where he jumped in.

Exit looked simple. From the lip of the ledge he would spring to the wall of the ravine, clinging with his hands and feet, and thence climb on out. Watson stepped on the lip, but he had not counted on it being slick, and with a feeling of horror he felt himself plunged into the sheet of water and downward.

Stars shone overhead when he returned to consciousness, his body wracked with pain. He lay on the lower edge of a small pool, bruised in many spots and his left leg broken below the knee. This was tragic indeed; but, he reasoned, he had at long last found the cached gold and he was sure the area about would yield still more nuggets. His spirits were high despite the situation in which he found himself.

He gritted his teeth and pulled himself out of the pool. By desperate effort and strength due to knowledge that at last he had struck it rich, he crawled and pulled himself with arms and hands from the ravine and down the slope to his stock.

The first yellow streaks of dawn were showing when he made the trail, and there Watson rested until full day came on. Somehow he managed to

Desert Quiz

This is *Desert Magazine's* monthly lesson for those who would like to know more about the Great American Desert—its geography, history, people, wildlife, industries and lore. If you answer 12 correctly you are no longer a tenderfoot; 13 to 15 is good, 16 to 18 excellent; more than 18 entitles you to the degree of Sand Dune Sage. The answers are on page 28.

- 1—Point from which one can see the highest peak in California is—
El Centro . . . Death Valley . . . Palm Springs . . . Las Vegas,
Nevada . . .
- 2—Elephant Butte dam is in the — Rio Grande River . . . Gila
River . . . Colorado River . . . Mojave River . . .
- 3—The Western Gecko is a species of — Lizard . . . Snake . . .
Bird . . . Flowering shrub . . .
- 4—The Desert Rat Scrap Book is edited by—Oren Arnold . . . Harold
Weight . . . Ray Carlson . . . Harry Oliver . . .
- 5—Bill Williams, for whom both a mountain and a river in Arizona were
named, was—An Arizona territorial governor . . . A trapper and
Mountain Man . . . Overland stage driver . . . Scout for the
Mormon Battalion . . .
- 6—Only venomous lizard on the Great American Desert is — The
Chuckawalla . . . Iguana . . . Gila Monster . . . Zebra-tailed
lizard . . .
- 7—Piki is an Indian name for a type of—Dwelling . . . Weapon . . .
Primitive money . . . Bread . . .
- 8—The Lechugilla desert is located in—Central Utah . . . Southern
Arizona . . . Northern Nevada . . . Southern New Mexico . . .
- 9—The long bridge at Moab, Utah, crosses the—San Juan River . . .
Colorado River . . . Green River . . . Fremont River . . .
- 10—The color of Chrysocolla is—Red . . . White . . . Purple . . .
Blue-green . . .
- 11—The Indian Pueblo of San Ildefonso in New Mexico is best known
for its — Pottery . . . Weaving . . . Ceremonial Dances . . .
Successful farming . . .
- 12—The Virgin (or Virgen) River in Utah flows through—Zion National
Park . . . Bryce Canyon National Park . . . Capitol Reef Na-
tional Monument . . . Dinosaur National Monument . . .
- 13—Dr. Herbert Stahnke of Arizona is nationally known for his
research work with — Rattlesnakes . . . Tarantulas . . . Desert
Tortoises . . . Scorpions . . .
- 14—Virginia City is an old mining camp in—Arizona . . . Nevada . . .
Utah . . . California . . .
- 15—The book *Gold, Guns and Ghost Towns*, was written by—George
Wharton James . . . George Palmer Putnam . . . W. A. Chal-
fant . . . Frank Dobie . . .
- 16—A piton is a tool used by—Lapidaries . . . Archers . . . Miners . . .
Mountain climbers . . .
- 17—Clyde Forsythe is a contemporary — Painter . . . Sculptor . . .
Mining engineer . . . Naturalist . . .
- 18—The Inter-Tribal Indian Ceremonials are held each August in—
Winslow . . . Window Rock . . . Gallup . . . Kayenta . . .
- 19—Recreational facilities around Lake Mead are administered by—The
U. S. Park Service . . . The State of Nevada . . . The Reclamation
Bureau . . . Municipal government of Boulder City . . .
- 20—Mexican Hat is a well known landmark in — New Mexico . . .
Utah . . . Arizona . . . Nevada . . .

get the short ax from the pack on the burro. That equipped him with the means of acquiring two pieces of heavy cedar wood which he bound on each side of his broken leg.

When he took off his right shoe to clean it of gravel picked up while crawling, he found four pea size nuggets, which told him even more that the slope was rich—the source of the gold mentioned in the dead man's letter.

Then he crawled from a ledge into the saddle on his horse, and set out for Tanner Trail. His burro fell in behind the horse, and a little after noon that day Watson arrived at the Martin Buggelin ranch on the south rim.

Here he had immediate help, and his hours of tortured struggle were ended. He was carried in a buckboard to the lumber mill hospital in Flagstaff. Gangrene set in the bruised and battered wounds of the broken leg, but Watson had the will to live, and after a four-month siege in the hospital he was able to walk again in October.

Watson sold some of the nuggets to pay his doctor and to provision himself. His stock had been kept at the Buggelin ranch, and from there he went back into the canyon. All this while Watson had kept his secret.

He did not reappear until the following spring. A brief visit to Flagstaff, where he sold more of the nuggets through an acquaintance, a veterinarian, "Doc" Roy Scanlon, and back he went.

After all his courage and long work, the sad fact was that Watson could not return to the cave behind the waterfall. He could not find it. Nothing could have been more disheartening to the man. There had been stunning shock on his first try, and then disbelief that this fantastic thing was happening to him. These things he told Doc Scanlon in the lobby of the Weatherford hotel in the fall of 1915.

Scanlon found him an embittered, hopelessly disappointed old man whose dreams were broken. At long last the dam of taciturnity in Watson broke, and he had to talk. He went home with Scanlon where the two men discussed the situation until nearly dawn. Watson's nagging fear was that if he didn't relocate the cache of gold and the rich slope soon, he never would.

Following a few days to permit Scanlon time to outfit himself, the two men went down into the canyon over Tanner Trail together. Except for infrequent trips out for supplies they searched constantly until late spring.

In the area just west of Tanner Trail where Watson firmly believed the waterfall to be, there was none to

be seen. In speaking of it later, Scanlon remembered that both winters—that of the original discovery of the rich earth near the fall by the unknown prospector and the winter Watson rediscovered it—there was unusually heavy snowfall. His theory was that only then had the ravine run with water. In addition, a cloudburst, a landslide, or an unusual run of water could have formed a dam somewhere above, diverting the melting snow stream permanently.

Whatever happened to the waterfall, it couldn't be found. Scanlon had to abandon the search, but Watson returned for two months more. He came out finally and, following the old Flagstaff-Grand Canyon Stage road, went off one night to camp among the cedars of Deadman Flat.

Sitting by his lonely fire that night the whole of his past life came before Watson. Now he was broken and old and could not return to the one rich strike. Disappointment and great bitterness overwhelmed him. He placed the butt of his .30-.30 carbine between his feet and back against a tree, the muzzle to the roof of his mouth. With a short stick in the right hand Watson plunged the trigger.

Two days later, coming along the same road in a buggy from Needmore, Scanlon found Watson's horse and burro, and then the body. Four thumb sized gold nuggets worn shiny by con-

stant carrying reposed in the right pocket of Watson's denims.

Though Old Tom's failure to relocate the gold grieved Scanlon, he did not consider it unusually strange. During his hunting with him Watson at least 12 different times had "recognized" some ravine and slope as being the right place. Scanlon had an explanation: "Men who spend most of their lives alone prospecting have nothing to relieve thinking about their quest and the country they cover. By campfires at night, moseying along during the day, all that was in their minds, literally, were pictures of specific scenes and landmarks, each a clear cut, well defined mind picture. Supposing the time came when under tense circumstances that man sought to affix one definitely on his brain? Supposing then that such deep thinking reproduced all the others, and they became as one?"

"I've known three other cases where prospectors could not return to the scene of a rich strike," Scanlon always added to his theory. "It probably accounts for most others as well. Long Tom simply could not bring his one mental picture of his strike free of a host of others. Therefore each new shift of scenery, each turn of the canyon wall, appeared to be the same."

Maybe Scanlon was right. Certainly no other man has yet found Watson's lost gold behind a waterfall.

Spring Runoff Outlook Gloomy for Colorado River, Tributaries

The water outlook for the Southwest this spring is not favorable, according to snow-pack reports compiled by the Weather Bureau for the first of January. Upper Colorado Basin states experienced perhaps the driest October of record the past fall.

Accumulated seasonal precipitation over the Upper Colorado Basin averaged slightly more than half of normal. Reports from the various drainage sheds are as follows:

Colorado River above Cisco: Water-year flows of only 60 to 85 percent of the 10-year average are expected for the area, assuming precipitation the balance of the season is near normal. Near-record maximum precipitation for January through June will be required to bring the water-year runoff up to the 1941-50 average.

Green River Basin: Median forecasts call for 50 to 90 percent of the 10-year average. Flows of 75 percent of average are in prospect for the White River and Uintah Basin streams in Utah. More promising is the out-

look for the Price River and Huntington Creek in Utah where median forecasts are for 90 percent of average flows.

San Juan River Basin: Streamflows for the headwaters and the northern tributaries of the San Juan are expected to be 75 percent of average; for the main stem below Farmington, 65 percent.

The effects of a dry October were in general offset by the heavy November precipitation over the lower drainages of the Little Colorado and over the Verde River and Tonto Creek Basins. Precipitation for these areas for the four-month period, September to December, averaged slightly above normal. Elsewhere in the Lower Colorado Basin the four-month totals were somewhat below normal except over the upper Gila watershed where precipitation fell far below average. Less than half of the 10-year average flows is expected for the main Gila and San Francisco Rivers.

Wildflower Forecast Holds Promise of Fine Display

Already in late January, the first blossoms of what may be a much-better-than-average wildflower season on the desert were seen on the dunes, mesas and in the canyons below the 1000-foot level.

From all over the Southwest, *Desert Magazine's* correspondents have sent in favorable forecasts for the wildflower display this season. Heavy rains in the late fall and early winter, followed by higher than normal temperatures, have brought a green carpet of sprouts to the floor of the desert and the lower slopes of the mountains.

Along the highways in Coachella Valley and Southern Arizona the verbena was coming into bloom in late January, and with it a sprinkling of the blossom of geraea, the roadside sunflower. On the lower slopes and in the canyons the perennial chuperosa or hummingbird flower was in profuse blossom.

Only two factors can prevent 1953 from being an exceptional year for wildflower blossom. These factors are freezing temperatures which may come even in February, and sandstorms. On February 2, when this forecast is written, the odds are all in favor of an exceptional wildflower display.

The reports are summarized as follows:

Mojave Desert — "Another banner year for wildflowers," reports Mary Beal, desert botanist of Daggett, California. "Everywhere the young plants are growing, and a few favored spots already are showing flower buds. Unless discouraged by much cold, windy weather, many of the early flowering species in the valleys should begin opening their blossoms by March."

Mesa, Arizona — From Apache Junction, Julian M. King writes: "Our prospect for spring flowers continues to be the best in years, and already tiny blooms are appearing on the desert's floor." King predicts an early season—six to eight weeks in advance—and excellent flowering.

Casa Grande National Monument — Superintendent A. T. Bicknell also is optimistic. According to his February forecast, the monument area around Coolidge, Arizona, holds promise of the best wildflower display in years.

Joshua Tree National Monument — Superintendent Frank R. Givens reports: "After the early or false spring during which the young plants grew rapidly, growth slowed down due to lack of recent rains. Unless there is a

rain before the usual flowering period, the plants will be stunted, and many of them will fail to bloom. However, they have had such a good start, just a shower or two is all that is necessary to carry them through to maturity and produce the spectacular desert wildflower display which has been expected."

Borrego Springs, California — Blossoms have begun to appear in Borrego State Park. "There are not enough for a good display as yet," reports Chief Ranger Maurice Morgan, "but if the warm weather keeps up, prospects are good for February and March." Early February blossoms included spectacle pod, brown-eyed primrose, phacelia and purple mat.

Antelope Valley — This winter has been unusually mild in Antelope Valley, and wildflowers began to appear far ahead of schedule. "The leaf rosettes of tri-color or birds-eye gilia are everywhere," Jane S. Pinheiro reported late in January. "The juniper is covered with its tiny golden brown cone-like blossoms, the wild black current is in bloom, and all the early annuals are up — phacelia, lupine, forget-me-not and poppies. There also will be a bumper crop of larkspur this year."

Saguaro National Monument — Predictions of Superintendent Samuel A. King are not so cheerful. "No rains of consequence have occurred since December," he reported in January, "and present temperatures are not conducive to germination. However," he brightens, "new leaves have made their appearance on the paper daisies, tobacco bush and brittle bush. Several desert marigolds are in blossom, and I have noticed one desert zinnia with flowers. Unless the weather continues cold and little or no rain occurs, some annuals should be in blossom in March. Filaree is coming up all over the area—usually an indication of a good flowering year."

Death Valley National Monument — "It begins to appear that March will be a good month for wildflowers this year," predicts E. E. Ogston, acting superintendent. "Warm weather has forced the annuals along until the alluvial fans and the highway slopes are carpeted with green. Most are desert sunflowers, but evening primrose and a few phacelias also are showing."

Lake Mead National Recreation Area — Cool weather has retarded growth, and lack of rain has caused a

loss of soil moisture in the Lake Mead area. If normal rains come in February, flower prospects are from fair to good. According to Russell K. Grater, park naturalist, present indications are that sundrops, phacelia, brittlebush, blazing star, desert marigold, sunray, desert dandelion, desert chicory, beavertail and strawberry cacti and lupine should show in good numbers.

THE *Desert* MAGAZINE CLOSE-UPS

Ever since Edith O. Newby saw what the desert could do for a city problem boy—she tells the story in this month's "Life on the Desert" feature — she has been worried about modern education. Too many teachers, she feels, neglect the great textbook of Nature.

Mrs. Newby is both teacher—tutoring English and Spanish occasionally—and student, attending classes at New York's Columbia University. The family home is in nearby Leonia, New Jersey.

Mr. Newby is a research engineer. Son Neal, after finishing graduate study at Columbia in 1951, worked for several months at Father Liebler's mission in Utah. All three are desert enthusiasts.

Desert's December cover — of the little Indian girl and her puppy — was of particular interest to Robert C. Euler, curator of anthropology at the Museum of Northern Arizona, Flagstaff. Euler recognized the girl as one of the Navajo youngsters he had worked with on the reservation.

"Her name is Elanor Peshlakai," Euler writes, "and she lives in the western part of the Navajo country, in the Little Colorado River valley, near Wupatki National Monument. She comes from a typical Navajo family, the second of five children. She speaks no English (although her Mother does) and has never been to school. This year we were able to place two of her brothers in school for the first time, and next fall we hope she can be spared from family chores so that she too may begin her education."

"Her father, Clyde Peshlakai, is well known in the western part of the reservation, but perhaps not quite so well known as her paternal grandfather. Peshlakai Etsedi participated in the "Long Walk" to Bosque Redondo during the Kit Carson campaign, and, later, made two trips to Washington to negotiate with Theodore Roosevelt on Navajo land matters.

Letters

Modern Arrowhead Maker . . .

Van Nuys, California

Desert:

In the March issue of *Desert* appeared an article about making arrowheads. I was especially interested, since making arrowheads has been my hobby for the past 20 years. In that time I have made several hundred points of different materials. It has been quite a study; each rock needs a little different treatment.

I often have wondered what cuss words the Indians used when they put pressure on the wrong spot and broke a half-finished head. It is easy to do.

E. J. JORDAN

Arrowhead-maker Jordan is a master craftsman in his hobby of making stone points. Three of his arrowheads, sent to the Desert Magazine staff, show the finest workmanship we have ever seen by either Indian or white man.—R.H.

• • •

Shine Smith Says Thanks . . .

Tuba City, Arizona

Desert:

Please accept my thanks for your help with my Christmas party. We had it at Marble Canyon this year, and more than a thousand Indians attended. It was a wonderful success, thanks to the kindness and generosity of my many friends everywhere.

SHINE SMITH

• • •

Unwanted by Whom? . . .

Santa Barbara, California

Desert:

My attention has been called to an article in the *Los Angeles Times*, reprinted in *Desert Magazine's* December issue, about "unwanted vegetation" in the desert. Both the terms "useless trees and shrubs" and "unwanted vegetation" should be used more carefully, it seems to me, especially by a Department of the Interior official.

Unwanted by whom? Many of these species are probably an ecological necessity for several types of animal life, and the advocated destruction of the vegetation may lead to a destruction of the dependent animal life.

I feel, somehow, that desert people have a more tolerant view about "useless" vegetation, and that perhaps living plants and animals in the desert have a use unto themselves besides their sole economic value to man.

WILLIAM L. NEELY

Also Conquer El Diablo . . .

Chula Vista, California

Desert:

It was with great interest that I read Randall Henderson's account of the ascent in 1937 of El Picacho del Diablo from the east (Jan. '53 *Desert*). It was just this past Thanksgiving that I and six others from the San Diego Sierra Club succeeded in making the climb from the east.

We, too, found El Diablo formidable: the Thanksgiving climb was my third attempt, one of the other climber's fourth.

There is a road now, passable to ordinary cars, leading from San Felipe to within an hour's hike of the base of the range. Our route apparently began in the same canyon described in the *Desert* story, but by taking two left branches we reached the ridge about a mile south, rather than north, of the main peak.

We were fortunate not to encounter any impassable waterfalls, although we did use the rope several times. We certainly did encounter the other hazards, though—agave, manzanita and snow. Snow, however, proved to be equally a help, furnishing us with a much-needed water supply. It was six to 15 inches deep above the 6000-foot level, and eight inches fell on us the third night.

We reached the peak in 2½ days and returned to the desert floor after dark of the fourth day—so dark we were unable to find the car and had to camp out another night!

BARBARA LILLEY

• • •

La Mesa, California

Desert:

That the years since 1937 have not reduced the ruggedness of El Picacho del Diablo, highest peak in Baja California, will be affirmed by Barbara Lilley, Bud Bernard, Jim Voit, Ed Welday, Eric Smith, Gary Hemming and myself. We climbed El Diablo from the east side last Thanksgiving.

Interested persons may find an account of the first recorded ascent of Picacho del Diablo in the *Sierra Club Bulletin* for February, 1933.

BRYCE E. MILLER

• • •

Would Adopt Burros . . .

Long Beach, California

Desert:

I was very interested in "Death Valley Playmates" in the October issue of *Desert Magazine*. I have two small daughters and would like to find two burros for them to keep as pets.

I would prefer females. If any of your readers know where I might obtain two of these animals, I would be very happy to hear from them.

LESTER L. DYMOND

Legend of Enchanted Mesa . . .

Palo Alto, California

Desert:

Your Desert Quiz of the January issue contains, in question number four, a poser that could possibly be correctly answered only by those who actually occupied the Enchanted Mesa in New Mexico. According to your answer, these people were Acomas.

I know of no archeological artifacts having been found upon the Enchanted Mesa which could definitely place the culture of its probably transient occupants.

In the past 30 years I have heard three myths of this "guardian of the westward gate" (Zuni)—Hopi, Zuni and Pueblo. And several Navajos, living as far west as the Kaibito Plateau country, could describe it, although I am sure they had never seen it but got its story from the old men.

These stories I heard, oft repeated, through some thousands of square miles of Indian country, from Kaiparowitz to Hovenweep on the north down to the Mogollons and Plains of St. Augustine on the south, while trading turquoise with the countless clans and tribes that have made this wild, high land their range for more than a thousand years.

What I consider the best of these tales was told me by Julian Martinez, husband of the famous potter, Maria of San Ildefonso, when he was chief guide for Fred Harvey at Puye 20 years ago.

We had just explored the ruins of the remarkable apartment houses that form Puye and were coming back down the trail, through the cliff dwellings to the lodge in Frijoles Canyon, when Julian paused by a huge monolith that had fallen from the ancient cliffs above. "I will tell you something that is almost forgotten," he said.

"The old people who lived here could tell time and had a fixed division of the seasons of the year by which they planted and harvested their crops and directed their lives. You see those two high points of rock on the south-east rim of this canyon?"

I looked across the canyon and plainly saw, jutting above the uniformly flat rim, two elongated pyramids of rock, perhaps 20 to 30 feet high and 10 to 15 feet apart at their base. The interstice between them formed a steep-walled notch—like a gunshot.

"Now look up at the cliff above you," directed Julian. "See that flat face from which this huge rock fell? It is a lighter pink than the older rock of the cliff."

I saw it and said so.

"Sec—about 20 feet down from the

top and up 30 feet maybe and in the middle. It is almost gone now. Look hard."

Suddenly, as my eyes grew accustomed to the various shades of color of water stains, lichen and the rock face itself, I could see a dim relief cut or chiseled upon the cliff. It was a spiral form with an enlarged head at the innermost end.

"It is a snake—a serpent," I exclaimed. "How in the world could anyone get down on that overhanging cliff to carve it there? Why?"

"For a long time this place was a secret place," Julian answered. "All these canyons were guarded, and when war came the people left their pueblo homes by the river and hid here.

"Then came the people from the south. Their weapons were better than ours and they wore armor and fought like the white men who came later—in rows and by commands from a leader out in front. They came farther and farther up the river, burning crops and destroying pueblos and killing the people. Many of the old men said, 'This is the end of us'.

"But one man was strong, and he called all the head men together and they made a plan. All trails were wiped out, and many new trails were made by having the women and children and many of the men run up and down them all night. All these trails led to the base of what you call the Enchanted Mesa—down there at the edge of the mesas of the canyon." Julian pointed toward the great black castle towering above the river plains.

"Much water and food were carried up a secret trail to the top of the Enchanted Mesa and some tules and reeds that grow only in waterholes and springs. Then the people went up to the top of the mesa and covered up the trail with rocks and bushes.

"When the men from the south came across the river they followed the trails the people had made to the base of the Enchanted Mesa. When they saw silhouettes of people on top, they tried to climb up and kill them. But they could not find the well-hidden trail. When they tried to climb the cliffs, huge rocks were thrown down upon them, and many were killed.

"For days and nights they worked around and around and tried to get up to the people. They burned the pueblos by the river and destroyed every living thing.

"Then one day the strong man came to the edge of the Enchanted Mesa and shouted down to the men from the south: 'Where is your leader?' And a great man stepped forward, with many colors in his headdress, and

he shouted back to the strong man, 'I am the leader!'

"Then the strong man of our people spoke: 'Look then, you who are strong and who understand and lead your people!' And he threw down a rock that was sewn in skins and around the rock and inside the skins were some of the tules and water reeds that had been kept fresh in the water carried to the top of the mesa.

"When the leader of the men from the south saw the reeds, he called his head men together. They believed the people had a spring of water on the Enchanted Mesa and could stay there forever. So the invaders withdrew across the river and soon marched away to the south.

"The old men of our people made the strong man chief. It was he who caused the houses to be built on the Enchanted Mesa and the gardens to be made on the canyon floors and irrigated by canals from the river. And each spring, when the rising sun cast a beam of light between those stones

and it fell upon the snake on the cliff, the New Year and the planting of crops was started. All the year was measured from that first day."

JOHN T. WHITAKER
("Tokop Jack")

ANSWERS TO QUIZ

The questions are on page 24

- 1—Death Valley.
- 2—Rio Grande River.
- 3—Lizard.
- 4—Harry Oliver.
- 5—Trapper and Mountain Man.
- 6—Gila Monster.
- 7—Bread, made by Hopi Indians.
- 8—Southern Arizona.
- 9—Colorado River.
- 10—Blue-green.
- 11—Pottery.
- 12—Zion National Park.
- 13—Scorpions.
- 14—Nevada.
- 15—W. A. Chalfant.
- 16—Mountain climbers.
- 17—Painter.
- 18—Gallup.
- 19—U. S. Park Service.
- 20—Utah.

Hard Rock Shorty OF DEATH VALLEY



"It wuz Pigah Bill's idea," Hard Rock Shorty was explaining to the dudes who were standing around the cold coke box in the Inferno store.

"Pisgah wanted to raise water-melons out at the spring in Eight Ball crick so he'd have water-melon to eat all summer when he wuz workin' his lead mine.

"The watermelon seed grewed all right. But the cottontail rabbits would come in at night and eat the sprouts before they even put out blossoms. An' if the rabbits didn't get 'em, the coyotes would eat the melons before they got ripe. An' when Bill brought in chicken wire to keep the rabbits and coyotes out o' the watermelon patch the wild burros'd come in an' knock down the fence—an' they'd eat both the vines and the melons.

"Bill tried it fer three years, an' he never did get to eat one o' his own watermelons. Then he got an idea. 'I'm gonna figger out some way to beat them varmints,' he kept sayin', an' the next season I saw him out gath-erin' seed from the cactus plants.

"'Gonna cross up the water-melons with cactus,' Bill explained. 'We'll have watermelon vines with spines on 'em, and there'll be more needles on the melons. I'll teach them blankety-blank rabbits and coyotes and burros to keep away from that melon patch or get a snout full o' cactus needles.'

"So Pisgah kept experimentin'—tryin' to grow spines on them watermelon vines. An' he finally solved the problem—or at least he thinks he did. After seven years o' propagatin' Bill finally got a patch of melon vines so prickly nothin' would go near 'em. Then the melons began to set on the vines, an' they had needles on 'em too. Bill wuz counting' the days till them melons got ripe.

"But they never did get ripe. Vines jest curled up an' died. Trouble wuz, it takes a lot o' water to grow watermelons—but cactus won't stand too much water. Bill kept irrigatin' them from the spring—an' with that strain o' cactus in 'em they jest couldn't take it. Bill jest watered 'em to death."

Here and There on the Desert

ARIZONA

For Archeological Research . . .

TUCSON — Archeological research in the Southwest will receive a tremendous boost in 1953 with establishment of a Carbon 14 age-determination laboratory at the University of Arizona. The laboratory will be supported by a \$6000 grant by the Research Corporation, a private non-profit foundation in New York which assists research activities, and will be under the direction of Dr. Emil W. Haury, head of the university's department of anthropology and director of the Arizona State Museum. The Carbon 14 method measures disintegration of Carbon 14 atoms in dead plants or animals and can determine ages up to 30,000 years. —*Yuma Daily Sun*.

Draft Navajo Constitution . . .

WINDOW ROCK — The first Navajo constitution has been presented to the Tribal Council in rough draft form. It was drawn up by Norman M. Littell, general counsel for the tribe, after conferences with tribal leaders and Indian Bureau officials. After the council has revised and approved the document, meetings will be held throughout the reservation to explain it to the Navajos. Ratification will be by reservation-wide referendum vote. It is believed that the task of making the constitution understood on the reservation may take several years to accomplish. —*New Mexican*.

Thin Buffalo Herd . . .

TUCSON — One of the biggest buffalo hunts in modern times was scheduled late in January on the historic Fort Huachuca military reservation in southern Arizona. Usually only 25 bison are killed each year. This year 250 of the shaggy beasts are doomed, to help keep the 500-head herd within bounds. The Huachuca herd is one of several in the state. —*Arizona Republic*.

Gas-Heated Hogans . . .

WINDOW ROCK — The time may not be far off when the lonely hogan tucked away in a reservation canyon is lighted with electricity and heated with gas. The Navajo Tribal Council is considering a plan to pipe gas into homes from a trunk line running across the reservation to the West Coast. The Rural Electrification Administration is pushing a power program. —*New Mexican*.

Proposes End of Indian Bans . . .

WASHINGTON — Senator Barry Goldwater initiated his promised drive to end federal discriminatory laws against Arizona Indians with a bill introduced jointly with Senator Carl Hayden. The bill would nullify ancient statutes which prevent persons with Indian blood from buying frying pans with handles (once considered a weapon) or a bottle of beer. Besides lifting the weapon and liquor bans, it would make it possible for Indians to sell their own cattle and other property—except land—without first obtaining the government's permission. Once the Indian learns to transact some of his personal business, he can take over greater responsibilities of the tribe, Goldwater believes. —*Arizona Republic*.

Navajos Ask Less Red Tape . . .

WINDOW ROCK — "What the Indians need is able business management, cutting of endless red tape, reduced bureaucracy and understanding of their desires to enjoy full rights and privileges of American citizens," said Navajo Tribal councilmen in a resolution sent to the new Republican administration in Washington. The message reaffirmed the council's endorsement of Glenn Emmons, Gallup banker, for appointment as U. S. Commissioner of Indian Affairs. —*Arizona Republic*.

Diamond Jubilee in Mesa . . .

MESA — This year Mesa is celebrating its diamond jubilee — the 75th anniversary of its founding. According to records, the city was officially founded on May 16, 1878, when Theodore C. Serrine drove the first stake laying out the townsite. Since then, the population has grown from a company of 200 Mormon pioneers to an estimated 20,000 people.

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BOOKS — MAGAZINES

PANNING GOLD — Another hobby for Rockhounds and Desert Roamers. A new booklet, "What the Beginner Needs to Know," 36 pages of instructions; also catalogue of mining books and prospectors' supplies, maps of where to go and blue prints of hand machines you can build. Mailed postpaid 25c, coin or stamps. Old Prospector, Box 729, Desk 5, Lodi, California.

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FOR SALE: 600 acres patented in national forest near Wheatland, Wyo. Merchantable timber, 2 miles trout stream, 1/8 oil rights. No improvements. Owner, Box 572, Phoenix, Arizona.

COMPLETELY FURNISHED — Desert cabin near Palm Desert, section 36. Interior 24x28. Patio 10x28 under same roof. Redwood exterior, knotty pine interior. All steel windows. Full bath, oil heat and hot water heater, wired for electricity. 500 gal. galvanized water tank. 1 acre ground. Price \$4750. For further information contact Thomas McGuire, 515 Winona Ave., Pasadena, California.

FOUR ROOM HOME on Lake Mead. All electric. Furnished. Fishing, hunting, boating. If interested write V. J. York, Box 111, Overton, Nevada.

WANTED TO BUY: or acquire—five acre tract in the Apache Junction, Arizona area. C. B. Kull, 813 So. 15th Street, Mattoon, Illinois.

COLORFUL—80 acres virgin land near scenic Cima, California. 84 miles S.W. of Las Vegas. Beautiful Joshua tree country. Just \$895.00 (full price) only \$25.00 down, \$15.00 per month. Write Pon & Co., Box 546, Azusa, California. Do it today! Sold under 90 day money back guarantee.

JACK RABBIT RANCHES—Rockhounds haven, San Diego, Imperial, Los Angeles and San Bernardino counties, no waiting three years to get your deed, no improvements required. Owner, Charles Malott, 5023 Meridian Street, Los Angeles 42, California.

PLACER CLAIM for sale. Good 3 room house plenty of water for household use. Seven miles north of Morristown, Arizona. Box 84, Morristown, Arizona.

BUSINESS OPPORTUNITIES

DESERT GEM SHOP at Salome, Arizona. Rapidly growing business. Excellent location on Highway 60-70. Five acres of land. Good water, wonderful winter climate. Selling on account of health. P. O. Box 276, Salome, Arizona.

WANTED—Couple to operate small Trading Post at Banner Queen Ranch, 8 miles east of Julian on Hiway 78. Write Banner Queen Ranch, Julian, California.

IMPORT-EXPORT! Opportunity profitable, world-wide, mail-order business from home, without capital, or travel abroad. Established World Trader ships instructions for no-risk examination. Experience unnecessary. Free details. Mellinger, 543, Los Angeles 24, California.

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PROSPECTORS AND ROCKHOUNDS wanted. To join the newly incorporated United Prospectors Organization. If you are experienced or beginners the articles in our magazine are bound to help you enjoy your hobby and the outdoors. Send your name for our new brochure and literature. United Prospectors, Box 729, Lodi, California.

DESERT TEA. One pound one dollar postpaid. Greasewood Greenhouses, Lenwood, Barstow, California.

Navajos, Traders Agree . . .

WINDOW ROCK — The Navajo Tribal Council met with the United Indian Traders Association recently with the aim of getting a better deal for the Indians. Among Navajo proposals to which the traders agreed were: an increase in rent from \$100 a year and .5 percent of gross income to \$300 a year and 1 percent of the gross; an agreement that the tribe owns all land and improvements on trader-allotted land while the trader retains title to fixtures; and adoption of a code of ethics for traders. Of 76 traders on the reservation, it was reported that 60 have paid up their obligations to the tribe, 10 are delinquent and the remaining six never have paid for trading privileges. Action was promised against the delinquent traders.—*Arizona Republic*.

CALIFORNIA

Plan Desert Reserve . . .

PALM SPRINGS — Plans for a desert primitive area where horseback riders and hikers will be able to view a section of desert preserved from encroaching civilization have been announced by the Palm Springs Desert Museum. On a site south of Palm Desert and east of the Palms-to-Pines Highway at the mouth of Deep Canyon, the museum proposes to protect and propagate desert plant, bird and animal life. The Coachella Valley County Water District has indicated it will grant the museum a 50-year lease on the site at \$1 a year. The site already is within a game refuge, and the water district's revetment has retarded flow of water from Deep Canyon sufficiently to encourage an exceptional growth of desert plants. —*Indio Date Palm*.

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Cajon Pass Expressway . . .

NEEDLES—Construction work on the \$2,000,000 first portion of the four-lane Cajon Pass expressway to Mojave Desert cities is right on schedule, reports S. W. Lowden, district state highway engineer. The first link is scheduled for completion April 1. It extends nine miles from a point one-half mile north of the Devore cut-off to the Cajon underpass. Work on the second part of the project will get underway in spring and will carry the freeway to a total distance of 15.1 miles. The two units are part of a long-range multimillion-dollar project to make U. S. Highway 66 a four-lane expressway from San Bernardino to Victorville.—*Desert Star*.

Payment in Full . . .

PARKER—A Metropolitan Water District check for \$3,289,147.38 was presented recently to the United States treasury, marking final payment by the district for Parker Dam and a portion of the power plant on the Colorado River. The district has paid a total of \$14,660,000 for the projects, power from which is used primarily to help operate pumping plants that lift Colorado River water over mountain barriers standing between the river and the cities and areas in the district.—*Colorado River Aqueduct News*.

Blythe Possible Fair Site . . .

BLYTHE — A bill establishing a county fair and exposition at Blythe has been introduced to the state legislature by Senator Nelson E. Dilworth. Under the bill the fair would be allowed a budget of up to \$6000. —*Riverside Enterprise*.



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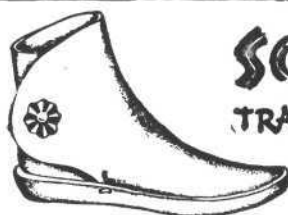
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Sierra Growing Higher . . .

BISHOP—The Sierra Nevadas are getting higher and higher, and it's a good thing for California, a University of California at Los Angeles geologist reported after completing several years' study of the eastern slope of the mountains near Bishop. Dr. William C. Putnam claimed the mountains have given California its prosperity, serving as they do to stop rain-bearing clouds from going farther east. The geologist admitted their growth is accompanied occasionally by earthquakes such as those last summer. — *Inyo Register*.

Indians Disapprove Offer . . .

PALM SPRINGS—Strong opposition has been voiced by Palm Springs' Agua Caliente Indians to a blanket \$9,100,000 offer for all lands now held by individuals and the tribe. The Indians own alternate sections of land in a sort of checkerboard pattern around the resort city as well as portions of scenic Palm, Andreas and Tahquitz canyons. The bid, made by a syndicate headed by E. L. Stancliff, Los Angeles real estate developer, also has the disapproval of D. S. Myer, commissioner of Indian Affairs. The proposal involves about 80 Indians and more than 6000 acres on the Agua Caliente reservation; tribal acceptance would mean roughly \$100,000 for each Indian. Myer stated that in regard to this offer, "no attempt is made to differentiate between the values of individual tracts." This is particularly

unfair where increases in value have not uniformly occurred, he claimed. Offers for unallotted communal or tribal lands give no indication of the amount or actual value of those lands. In order for a sale to be completed, it is expected that the proposal would have to receive approval from tribal members and the Bureau of Indian Affairs, and in addition require special congressional action. Even then, the land would be offered for sale at public auction, and bids other than Stancliff's would be invited.—*Desert Sun*.

Death Valley Airport . . .

DEATH VALLEY—Construction was scheduled to start January 19 on a new airport for Death Valley, to be located just west of Furnace Creek Ranch. Cost of the project, due for completion April 5, is expected to be about \$170,000. The 280-acre site was donated to the Civil Aeronautics Authority by Pacific Coast Borax Company.—*Trona Argonaut*.

Castle Road Crash . . .

DEATH VALLEY—T. R. Goodwin, superintendent of Death Valley National Monument, underwent an operation January 27 for a spiral femur break sustained in an automobile accident late in December. The crash occurred on the Scotty's Castle road in Death Valley. It was hoped Goodwin would be back on the job by the end of March. Meanwhile, E. E. Ogston is serving as acting superintendent.

Waterfowl Damage Crops . . .

EL CENTRO—The wildfowl situation has become so serious in Imperial Valley that the California Assembly has called upon the federal fish and wildlife service to reopen the season for hunters. Farmers estimated the waterfowl had caused \$100,000 damage to grain crops.—*Yuma Daily Sun*.

NEVADA

Wild Burros Harrass Rangers . . .

BOULDER CITY—National Park Service rangers in the Lake Mead Recreational Area are having wild burro trouble. Not only do the burros conflict with wildlife species by monopolizing and contaminating desert waterholes, rangers report, but they are proving nuisances in other ways. They cause considerable damage to wooden signs and campsite installations and have been directly responsible for a number of automobile accidents—two of them serious. The National Park Service reports it is not trying seriously to eliminate the animals entirely, but it carries on a three-point program to control them: by driving them out to other areas, by allowing responsible persons to trap them alive and remove them for use elsewhere and by allowing stockmen to protect their grazing lands by shooting trespassing burros.—*Las Vegas Review-Journal*.

Reactivate Park Commission . . .

RENO—Dormant for several years, the Nevada State Park Commission has been reactivated by Governor Charles H. Russell. Among newly-appointed members are Colonel Thomas W. Miller of Caliente, who headed the commission when it was first established in 1935. All the appointees are experienced in national and state park administration and archeological work.

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Plan Radio Contact System . . .

CARSON CITY—There are only four telephone points along the 380-mile stretch of U. S. 50 between Fallon and Ely. Other sections of Nevada also are remote from help in case of an emergency. The situation will be helped considerably when the Nevada State Highway Department gets its statewide radio service installed, with way stations along isolated highway stretches and two-way communication sets in department trucks. Primary object of the system is to hasten the handling of orders between highway department headquarters in Carson City and various maintenance stations and mobile units throughout the state. It also will be brought to use during periods of deep snow and will offer additional emergency communication facilities to the traveling public. — *Reese River Reveille*.

Predator, Rodent Control . . .

LAS VEGAS—Formation of a five-man predatory animal and rodent control committee for Nevada has been announced by Wayne Kirch, chairman of the state fish and game commission. The group will coordinate predator and rodent control programs of the Nevada State Farm Bureau, State Sheep Commission, State Board of Stock Commission and State Board of Health.—*Las Vegas Review-Journal*.

Back U.S. 93 Cutoff . . .

ELY—The move for realignment of U. S. Highway 93 from the southern end of Pahrangat Valley to a point near Las Vegas gained impetus when commissioners of Lincoln County officially approved the idea. Now only Clark County's endorsement is needed before plans can proceed. The new route would be from 25 to 30 miles shorter. It is pointed out that the existing road is in such bad shape that it must be rebuilt in the immediate future, and it would be wiser to build a new shorter strip than to rebuild the old one.—*Pioche Record*.

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For Nevada's Power Needs . . .

WASHINGTON—Secretary of Interior Oscar Chapman has submitted the planning report of the Upper Colorado River Basin to the bureau of budget, recommending that it be transmitted to the incoming session of Congress. Development on the upper Colorado would include as one of the initial projects, Glen Canyon Dam, to be located just above Lee's Ferry. Later projects are the Bridge Canyon and Marble Canyon dams. If okayed, the projects would add 2,000,000 kilowatts of generating capacity to the Southwest area supply, almost doubling the installed output at giant Hoover Dam, and would do much to help meet southern Nevada's rapidly multiplying power needs. — *Las Vegas Review-Journal*.

NEW MEXICO

Running Water for Villages . . .

SANTA FE — Running water, a comfort most folks take for granted, has come for the first time to several thousand New Mexicans who live in backwoods villages. It has made a powerful impact on their lives and has created new customers for kitchen sinks, washing machines and indoor plumbing. The State Health Department started its program of providing tiny mountain villages with safe water supplies in 1947, and the job will be half finished this year. Appropriation of another \$300,000 by the 1953 and 1955 legislatures would see the program to completion, estimates Charles G. Caldwell, director of the department's division of sanitary engineering and sanitation.—*New Mexican*.

Ponder Water Division . . .

ALBUQUERQUE—The San Juan River, only major source of unused water in New Mexico, cuts across the northwest corner of the state for about 120 miles. Under the five-state Upper Colorado River compact, New Mexico can deplete the river by 838,000 acre feet a year. It now is using only about 80,000.

State engineers proposed to split this unappropriated water three ways—into the South San Juan, the Transmountain and the Shiprock projects. The first proposes construction of a 1,200,000 acre foot reservoir—Navajo Reservoir—30 miles east of Farmington. The Transmountain project would take water from high in the mountains of the San Juan watershed and bring it to the Chama River through a series of tunnels, channels and reservoirs, thence to the Rio Grande. Several hydro-electric plants would be built. The Shiprock project would irrigate Navajo Indian lands south of Shiprock.

But there is bitter disagreement as to how the water should be divided among the three projects. The Navajo Tribal Council claims 610,000 acre feet of the available 838,000, which would leave enough for a 200,000 acre foot Transmountain project and no South San Juan project or some other division of the 200,000. New Mexico Senator Anderson, strong advocate of the Transmountain diversion, claims the Shiprock project is the most wasteful and expensive of the three and that much of the Navajo lands in the Shiprock area are unfit for irrigation.—*Aztec Independent-Review*.

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Death to Juniper Trees . . .

ALBUQUERQUE—Replacing juniper trees with nourishing grass has long been the dream of Western range-men. But the juniper is a pesky plant to root out; any drastic digging project takes a good deal of effort and places the ploughed soil at the mercy of erosion. Now the Cat Claw—a bulldozer attachment developed by Henry Mullin, U. S. Forest Service mechanical engineer for the Arizona-New Mexico region—can do the job at little time and expense. The machine stabs in under the juniper's thick cluter of roots and pries it out, shaking most of the soil out of the roots and leaving a relatively narrow scratch on the ground cover. Soon grass takes over, providing food for cattle, sheep and wild game.—*Albuquerque Journal*.

Texas Maybe Not So Big . . .

SANTA FE—A young Texas lawmaker says New Mexico owns a chunk of the Lone Star state. State Rep. J. B. Walling investigated for two years before announcing he believes New Mexico has a claim on a 16-mile-deep slice of the Texas Panhandle. State officials have upheld Walling's claim that an 1867 survey of Loving County was inaccurate. "The only way it could be proved," said the 24-year-old Texan, "would be to dig in the sand out there and find an old bottle a surveyor buried as a marker in 1858. 'I'm sure not going to try to find it!' he added 'I'd never be elected to public office in Texas again if I did.'—*New Mexican*.

Asks Navahopi Funds . . .

WASHINGTON — In his 1953 budget request to Congress, President Truman asked \$14,687,059 to carry on the long-range Navajo-Hopi Indian aid program for the year beginning July 1. Last January, the President proposed expenditures of \$20,394,200 for the program, but Congress allowed only \$9,259,000.—*New Mexican*.

Coordinate Water Forecasts . . .

CARLSBAD—Irrigation farmers in Western states will receive more accurate and comprehensive information on prospective water supplies in 1953. The U. S. Soil Conservation Service prepares water supply forecasts based on snow surveys, and the Weather Bureau predicts stream flows on the basis of precipitation measurements. Under a revised forecasting arrangement, the two agencies will collaborate in their survey publications. — *Eddy County News*.

Low Runoff Predicted . . .

ALBUQUERQUE—Water supplies for New Mexico will be below normal in 1953, according to reports of the U. S. Weather Bureau and Soil Conservation Service. The Canadian River Basin is expected to have the largest runoff—still only 94 percent of normal—but some places in the basin will fall below 60 percent. Predictions for the Rio Grande Basin are 70 to 80 percent of the norm.—*New Mexican*.

UTAH

Weber Project Begun . . .

UINTAH—The first explosive blast high on the Wasatch mountainside east of here was set off January 9, officially beginning construction on Gateway Tunnel of the \$68,670,000 Weber Basin water development project. The nine-foot, four-inch bore is first leg of the giant project, being constructed under supervision of the U. S. Bureau of Reclamation.—*Salt Lake Tribune*.

Echo Park Still In . . .

WASHINGTON — Contrary to earlier published reports, the proposed Echo Park dam has not been dropped from the planning report on the projected billion-dollar Upper Colorado River Basin storage project. Commissioner of Reclamation Michael W. Straus presented a seven-year program for the continued development of the West's water resources to Congress in January. Included was the Echo Park project, calling for the expenditure of \$88,389,000 between 1953 and 1959—nearly half the total estimated cost of the big dam and reservoir.—*Vernal Express*.

New Reseeding Equipment . . .

VERNAL — Four new kinds of reseeding equipment have shown up satisfactorily in tests made this summer, according to Merle Varner, chief of range and wildlife management for the Intermountain region of the forest service. The equipment includes a new type of seeder capable of drilling seed on rough, rocky ground; an electric seed broadcaster; a sagebrush roto-beater and a heavy duty stubble plow. All four will help the forest service carry out its range reseeding project faster and at less cost.—*Vernal Express*.

Water Supply Assured . . .

SALT LAKE CITY—Despite sub-normal snow cover on Salt Lake City's watersheds at Brighton, water department officials are not worried about the effect on next summer's water supply. The threat of drouth on the city's storage supplies has been largely dissipated by completion of the Salt Lake aqueduct. In addition, the Duchesne tunnel now is completed and will be ready for use this spring to channel surplus water from the north fork of the Duchesne River for storage in Deer Creek reservoir. These supplies, plus the city's regular storage reservoirs and artesian well system, will be more than adequate unless an unusually severe drouth is experienced, water experts point out.—*Salt Lake Tribune*.

Seal Dangerous Caves . . .

ST. GEORGE — Historic Bloomington Caves south of St. George were sealed by two dynamite blasts after members of Dixie grotto of the National Speleological Society reported they were unsafe and recommended they be closed to prevent injury to children. The caves had no archeological or geological interest, and loose materials in the rock ceilings presented hazards to youthful explorers.—*Washington County News*.



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Gems and Minerals

FRESNO SOCIETY PLANS FIRST GEM, MINERAL SHOW

President Clement Tavares of Fresno Gem and Mineral Society has announced the group's first show will be held April 18 and 19 in Fresno, California. Co-chairmen are George Harbison, past president, and Dr. Tavares. Rockhounds or clubs desiring show space should write to Fresno Gem and Mineral Society, Route 7, Box 108, Fresno.

ROCKHOUND BUYERS GUIDE VALUABLE REFERENCE MANUAL

How often have rockhounds wondered: Where can I buy this gadget? Are there any rockhound dealers along my vacation route this year? When I'm out of town, perhaps I might visit another gem and mineral society's meeting. Where is the nearest one, and when does it meet? Is there any book that can tell me about this particular stone and how to cut it?

Now a directory is available which can answer these questions. Edited and compiled by Leland Quick, editor and publisher of the *Lapidary Journal*, the *Rockhound Buyers Guide* is a reference volume no mineral and lapidary enthusiast should be without. The *Guide*:

Lists gem and mineral shops and lapidary equipment dealers throughout the country—almost every dealer having anything of interest to sell to rockhounds—by dealers, products, states;

Gives a thorough gem bibliography—a list and description of every known book of importance published since 1601 on the subject of gems, lapidary, jewelcraft and mineralogy—and names of magazines and other periodicals catering to the rockhound hobby;

Tells how to organize a gem and mineral club, suggesting a model constitution and by-laws, and lists American gem and mineral societies with time and place of meetings;

Lists museums in North America which have gem and mineral displays;

Describes rockhunting sites in Washington, Oregon, Texas, Minnesota and California and lists motels and trailer parks run by rockhounds or in rockhunting territory;

Gives shop helps for the lapidary, directions and diagrams how to cut and polish the standard brilliant, tables of hardness and locations and definitions of odd and non-authoritative gem rock names.

In addition, the *Guide* offers advertisements of leading dealers in gem and mineral supplies and manufacturers of lapidary equipment. A handy index of advertisers quickly locates specific ads.

Published by the *Lapidary Journal*, the *Rockhound Buyers Guide* contains 160 pages and sells for only \$1.25. Copies may be ordered from the *Desert Magazine Book Shop*, Palm Desert, California. California buyers add three percent sales tax.

Gem Cutters Guild of Los Angeles held its annual auction party in January. That month's regular meeting featured a talk by Arthur Terry on the use of the refractometer, dichroscope, polariscope, monocular microscope and binocular microscope in the identification of gem stones.

WOULD-BE PROSPECTORS GO TO SCHOOL IN BISHOP

Prospectors and would-be prospectors started to school January 5 when a prospecting course offered under the auspices of the state department of vocational education held its first meeting at the Mineral County High School, Bishop, California.

The course was scheduled to run five evenings a week for two weeks. J. P. Hart, an experienced Nevada mining man, was instructor.

According to Hart, the course is designed "to stimulate interest in prospecting and to offer to those who wish to search for mineral deposits instruction which will enable them to proceed intelligently and with greater likelihood of success."

The prospector student would learn rock classes and mineral indications so that he might recognize favorable locations; structural features in ore deposition and how various types of deposits originated; proper procedure in looking for ore deposits; familiarity with the appearance of a wide range of ores; approved methods of sampling and assaying and proper interpretation of results; basic laws relating to various classes of mineral deposits, procedure in locating claims and approved methods of opening a prospect, following and extracting the ore.

Upon graduation, the student would furthermore possess a knowledge of and practice in testing for recovery processes and should be able to design a treatment plan applicable to various types of ores, including placer deposits. He would be familiar with ore sales and smelter settlement schedules and should know where to obtain and how to use geological maps, reports, bulletins and other matter published as aids to the mining industry.

The course also outlines approved practices in the handling and use of explosives, emphasizing safety and efficiency.

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Maricopa Lapidary Society will hold its second annual gem show March 7 and 8 in the Phoenix, Arizona armory. An outstanding collection of exhibits is promised.

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Gem and Mineral Societies Elect, Install 1953 Officers

As 1953 begins for gem and mineral societies throughout the country, new officers occupy many board positions, new names head committee rosters, new faces are seen around the conference table. Many societies ballot at Christmas time, install newly-elected slates at January meetings.

Here are the results of some of these elections. These new officers already are busy planning and directing club activities, gem and mineral shows, programs and field trip outings.

Kent Freeman was named president of Tacoma Agate Club, Tacoma, Washington, at a recent election meeting. Serving with him in 1953 will be Ed Burke, vice-president; Dorothy Zimmerman, secretary; Peggy Olsen, treasurer, and Norm Erpelding, director. Charles Wible and Al Bowman will continue as directors.

New officers of Searles Lake Gem and Mineral Society, Trona, California, were installed at the annual Christmas banquet. Taking office were L. C. Darnell, president; Vik Bennett, vice-president; Ruth Gorge, secretary; Bill Bennett, corresponding secretary; Harvey Eastman, treasurer, and Al Tankersley, hut chairman. Directors are Moe Leonardi, Oscar Walstrom, Mrs. Parke Dunn, Mildred Goldsborough, Bob Bostrom and Eddie Redenbach. Redenbach also was named field trip chairman. Plans for a Rock Fair to be held at Trona are in the embryonic stage, and any clubs interested in participating should contact the corresponding secretary, Box 1315, Trona, California.

Nelson Severinghaus will preside over Georgia Mineral Society meetings this year. Assisting him in club duties will be Professor Romeo Martin, vice-president; J. Roy Chapman, recording secretary; Miss Erna Mason, corresponding secretary; S. P. Cronheim, treasurer; Dr. Frank Daniel, historian, and Dr. Lane Mitchell, curator.

Robert White took office as president of Northern California Mineral Society in January installation rites. Other officers for 1953 are Alden Clark, vice-president; David Friedman, treasurer; Mrs. Helen Burton, secretary; Mrs. Mildred Wurz, librarian; Wilhelm Haedler, curator; Mrs. Georgia Paine, hostess; Fred Thorne, electrician and maintenance. Directors are Harold Newman, Ed Grapes, William Stearns and Cecil Iden.

Dr. Clement Tavares was installed president of Fresno Gem and Mineral Society in January. Mrs. Minnie La Roche is first vice-president; Eddie Fay, second vice-president; Terry Tanner, secretary, and Elsie Wood, treasurer. Directors are Carl Noren, Paul Sorrenti, Ernie Ison and Cary Marshall.

New officers of Everett Rock and Gem Club, Everett, Washington, assumed duties at the club's 13th annual banquet January 12. Bob Hagglund is president; Bud Kinney, vice-president; Charles Krogh, past president; Harry Small, Jr., secretary-treasurer. Committee chairmen for 1953 are Casey Jones, program; Leona McGuire, display; A. Bagley, field trips; Al Dougherty, ways and means. Wives of board members will serve as entertainment hostesses. William DeFeyter is federation director, C. W. Cowan is convention delegate, and Marie Hagglund will continue as editor of the club's bulletin, *Pebbles*.

At an election meeting in Eureka, California, Humboldt Gem and Mineral Society named George Morgan to lead 1953 activities. Assisting him will be new board members, Max Ross, vice-president; Olive Davis, secretary-treasurer, and Amelia Alward, librarian.

From Grants Pass, Oregon, come election results of the Rogue Gem and Geology Club. Andy F. Sims is new president; Ben Bones, vice-president; Mrs. Louise A. Geasland, secretary; and Everett P. Geasland, treasurer.

One of the newer members of Delvers Gem and Mineral Society, Downey, California—Woody Gaines—was elected president in recent balloting. Mr. Kent was elevated to the office of vice-president from his 1952 post as secretary; Amy McDaniel took over secretarial duties, and Ed Flutot was re-elected treasurer.

Clark County Gem Collectors' presidential gavel was turned over to John Kuypers at a dinner meeting in Las Vegas, Nevada. Also assuming office in the installation rites were John Hartman, vice-president; Paul Mercer, secretary-treasurer, and Cortez Cooper, Mrs. Gene Parks, directors. Mrs. Parks is retiring president. One of Kuypers' first official acts was appointment of committee chairmen: Cortez Cooper, membership; Herbert Fritts, activities; William Brown, technical adviser; Mrs. Sara Hamilton, hostess; Harold Julian, librarian; Marion Johnson, historian, and Mrs. G. W. Lewellyn, publicity.

New president of Maricopa Lapidary Society, Phoenix, Arizona, is W. I. Moseley. Other board members for this year are J. G. Hahn, vice-president; H. J. Hazelette, treasurer; Lucille Raeder, secretary.

Members chose new officers at a recent general meeting of San Diego Mineral and Gem Society, San Diego, California. Winners were P. M. Brown, president; Jeanne Martin, vice-president; Leslie Burns, treasurer, and Mrs. V. Dawson, recording secretary.

At its annual pot-luck dinner meeting, Benicia Rock and Gem Club, Benicia, California, installed new officers: Harold Lerch, president; Leroy Floyd, vice-president; Ray Bahrenburg, secretary, and Thomas Reeves, treasurer. The group's big 1953 activity is the gem and mineral show planned March 7 and 8 in the Benicia Grammar School Auditorium on East Third and K streets. The public is invited to this non-competitive, non-commercial show.

The newly printed yearbook of Marcus Whitman Gem and Mineral Society, Walla Walla, Washington, lists as 1953 officers: Al Estling, president; Mrs. E. F. Westcott, vice-president; Yancey Winans, secretary; Mrs. Henry Ewing, treasurer; George Weber, federation director; Mrs. D. R. Irwin, historian, and Lynn Shelton, librarian. Directors are Rem Heater, Theo Black and Harley Allen. The yearbook also gives a complete schedule of programs for 1953.

New officers of Compton Gem and Mineral Club, Compton, California, are Don McClain, president; H. Chaffee, vice-president; E. McClain, recording secretary; Rhoda Brock, corresponding secretary; Henry Hart, treasurer; Ida Coon, historian, and H. R. Rhodes, librarian.

Due for installation at the February meeting of Dona Ana County Rockhound Club, Las Cruces, New Mexico, were Miss Ruth H. Randell, president; Mrs. Vera Archer, vice-president; Shilo T. Smith, treasurer; Mrs. Lois Olinger, recording secretary, and Mrs. Mildred B. Sanders, corresponding secretary. New editor of the club bulletin is Mrs. Dorothy D. Smith; Mrs. Ruth Kilgore is reporter, and Mrs. Zenith Patty, historian.

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SECOND DESERT ROCKHOUNDS FAIR IN INDIO MARCH 14, 15

Shadow Mountain Gem and Mineral Society of Palm Desert, California, has announced it will hold its second annual Desert Rockhounds Fair March 14 and 15 in Indio, California. Last year the fair was held in the *Desert Magazine* Pueblo in Palm Desert, and 7017 visitors registered. To accommodate even greater numbers this year, the society decided to move the show location to two large buildings at the Riverside County Fairgrounds in Indio.

Neighboring desert gem and mineral societies have been invited to co-host with the Palm Desert group.

CALIFORNIA FEDERATION WELCOMES NEW MEMBERS

Five societies were accepted for membership in the California Federation of Mineralogical Societies at a directors meeting held in Bakersfield, California in November. Newcomers to the federation are the Antelope Valley Gem and Mineral Club, Palmdale; Del Norte Rockhounds, Crescent City; N. E. L. Mineral and Gem Club, San Diego; Mid-Coast Mineral Club, Shell Beach, and Tule Gem and Mineral Society, Visalia.

An old fashioned spelling bee—featuring gem and mineral terms—was planned by Program Chairman Leland Quick for a meeting of Shadow Mountain Gem and Mineral Society, Palm Desert, California. Prizes were rock and gem specimens.

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GEOLOGIST, EXPLORER TELLS OF INDO-CHINA TRIP

While he was an engineering geologist at the Université de Nancy, France, Dr. Robert W. Karpinski directed exploration for gold and tin in French Indo-China. Now head of the geology department of the Chicago Undergraduate Division, University of Illinois, Dr. Karpinski spoke on "Exploring for Minerals in French Indo-China" at a recent meeting of Chicago Rocks and Minerals Society.

Most of the expedition's time was spent in southeast Laos and western Annam, where members searched for placer locations by panning river deposits for gold. The primitive Moïs live in this area, and Dr. Karpinski had opportunity to study their living habits. He showed colored slides of the natives' occupations, dwellings, clothing, food, housing, ceremonials and weapons.

"There are no active volcanoes now," the speaker reported, "but there were until only recently, and tea and coffee are grown on the lava flows. In the northeast lies a large anthracite area, and alluvial deposits of tungsten and tin and small gold and zinc deposits are found in some places." None of the metals was found in commercial quantity.

Signing up for field trip reservations was a scramble at the January meeting of the Mineralogical Society of Southern California. Only 30 members would be able to enter Crestmore Quarry to search for mineral specimens; and the sign-up list was closed after 30 names were entered. Ronnie Thacker was chairman for the trip, scheduled to leave from Pasadena, California.

A three-way tie for first place occurred in a recent gem and mineral contest of Dona Ana County Rockhound Club, Las Cruces, New Mexico. Ruth Kilgore, Lesla Markley and Shilo Smith each won a faceted stone set in a mounting ready to wear.

Professor Dolloff of San Jose State College spoke on the geology of Santa Clara County at a meeting of San Jose Lapidary Society, San Jose, California.

George Mallott has been elected chairman of the archeological interest group of the Earth Science Club of Northern Illinois. An Indian village site on the Kankakee River was visited on the group's first winter field trip. Many potsherds and arrowheads were found in addition to a pitted hammerstone, worked bone, scrapers and other artifacts. A field discussion was held on how to find Indian sites, how to recognize various artifacts and the basic techniques of archeological survey.

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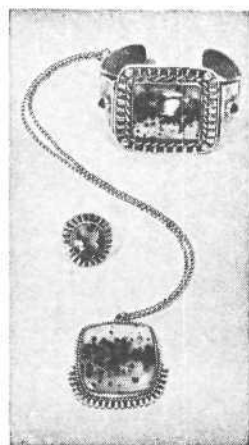
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SOUTHWEST MINERALOGISTS SELECT APRIL SHOW DATE

Gordon Bailey, show chairman, has announced that the 1953 gem and mineral show of Southwest Mineralogists will be held at the same location as last year, the South Ebell Club of Los Angeles, April 25 and 26.

Three speakers shared the speaker's stand at a recent meeting of El Paso Mineral and Gem Society. L. G. Howle told the chemical formula of the "mizzonite" found in Fossilman Canyon; George H. Hiller explained how this deposit of colorful rock was located, and Burgess Newell exhibited spheres cut and polished from this material. The site is located near El Paso but in range of an army firing range; so it is only accessible on Sundays.

Colored pictures, taken by D. Haven Bishop on a European trip last summer, were shown at the Christmas meeting of Los Angeles Lapidary Society.

Carol Moisman, a junior rockhound, was guest speaker at the 17th anniversary meeting of the Mineralogical Society of Arizona, held in Phoenix. Carol, whose subject was copper minerals, won first prize in the grade school thumbnail contest at the Arizona State Fair. Later in the evening, Program Chairman Jack Clark conducted a gem and mineral spelling bee.

Two minerals known as "fool's gold"—pyrite and marcasite—were described for junior members of the Earth Science Club of Northern Illinois at a December meeting. Representative specimens of each were shown, and it was pointed out how they differ in crystal shape, interior color, stability and type of formation. The group is open to pre-high school students.

"Crystal Clear," a movie on the subject of crystal growth, provided an evening program for Compton Gem and Mineral Club. Afterwards, Kay Westerman and Mac McLaren lectured on their favorite rocks.

Vice-President J. Roy Chapman of Georgia Mineral Society writes a series of articles on "The Caves of Georgia" for the society's monthly *Newsletter*. Tenth in the series, Ellison's Cave in Walker County, was published in the November-December issue. Chapman is a member of the National Speleological Society. An artist, he illustrates the stories with clever cartoon drawings.

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Blue Bird Hill near Ogilby, California, was the January destination of Coachella Valley Mineral Society field-trippers. Permission was granted by the Bluebird Mining Company and the Aluminum Silicates Company to enter and work their quarries, where numerous minerals are to be found. Members hoped to find specimens of kyanite, quartz, muscovite, mica and magnetite. Occasionally careful search turns up tourmaline, apatite, dumortierite and limonite crystals.

Adrian DeWitt promised to lead collectors from San Fernando Valley Mineral and Gem Society to a location of agate, bloodstone and jasper on the January field trip.

First meeting of 1953 for Chicago Rocks and Minerals Society featured a talk by Donald Boardman, head of the geology department of Wheaton College, on "Use of Accessory Minerals in the Work of Stratigraphy and Sedimentation." Dr. Boardman illustrated his remarks with colored slides and provided a microscope for close scrutiny of typical specimens.

"The Philosophical Aspects of Our Hobby" was the topic selected by Dr. Glock of Macalester College, St. Paul, Minnesota, when he appeared as guest speaker for the Minnesota Mineral Club.

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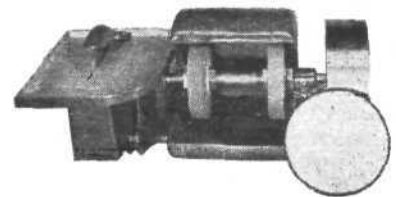
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SHOW SLATED MARCH 21, 22 BY SAN LUIS OBISPO SOCIETY

Second annual show of San Luis Obispo Gem and Mineral Club will be held March 21 and 22 in the Veterans Memorial Building, San Luis Obispo, California. Hours are from 10 a.m. to 9 p.m. Saturday, from 10 a.m. to 6 p.m. Sunday. Field trips in the area will be conducted for visitors, and there will be a trading table in the exhibit hall. Visitors are urged to bring duplicate specimens for trade.

A swap table and a specimen table have become regular features of Earth Science Club of Northern Illinois meetings. To the former, members bring duplicate specimens for trade, to the latter, specimens they need help identifying.

Francis Elmore, naturalist, curator and librarian of Yellowstone National Park, showed pictures of Yellowstone to members of Marquette Geologists Association of Chicago. Following Guest Speaker Elmore, Member Ray Mitchell told of his summer trip to the badlands and the Black Hills of South Dakota. He concluded his talk with a number of lapidary shop helps.

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"Gem Cutting in Ancient Egypt" was the subject of Dr. Richard H. Swift when he appeared before the Hollywood Lapidary Society. Dr. Swift, fellow and past president of the Southern California Academy of Science, was in Egypt with the British Museum during the excavation of some of the tombs. He displayed his collection of ancient Egyptian gems.

Eight cars carried Mineralogy Division members of San Diego Mineral and Gem Society to the April Fool Mine for a winter field trip. After collecting good specimens of malachite, azurite, specular hematite, epidote, quartz and limonite, the group proceeded to Calavera Quarry to search rock cavities for stilbite and heulandite, two types of zeolite. At the latter location, dendrites of manganese oxide were common, and a buff-colored mineral clay was found in many of the openings.

ROSE WINDOW PLANNED AS SAN JOSE SHOW FEATURE

Thin slabs are being polished by members of San Jose Lapidary Society for use in the rose window to be displayed at their annual show. The show will be held April 18 and 19 in San Jose, California.

A geophysical exploratory committee has been named by Dona Ana County Rockhound Club to locate and explore new field trip sites. Members are Jesse Patty, Ed Archer, Sid Sanders and Wade Brookreson.

Mrs. Helen Burton and George Dingmann were winners in Northern California Mineral Society's December mineral naming contest.

San Antonio Rock and Lapidary Society has changed its meeting place to the auditorium of Witte Memorial Museum, Brackenridge Park on Broadway, San Antonio, Texas.

APRIL 11, 12 SHOW DATES FOR IMPERIAL VALLEY CLUB

Imperial Valley Gem and Mineral Society will hold its annual show April 11-12, announces Chuck Holtzer, secretary. Exhibits will be arranged in the California National Guard Building, 310 South Fourth Street, El Centro, California.

Coon Hollow, California, was the destination of San Diego Lapidary Society on a four-day New Years field trip. Besides fine fire agate specimens, the site offered opportunity for side trips after other minerals: to the Hauser Beds and Potato Patch for geodes and pastelites; Double Butte and Chuckawalla Springs for agate; Agate Valley for agate and sagenite and quartz and geode locations near Quartzsite, Arizona.

W. R. Watson was invited to address the East Bay Mineral Society, Oakland, California, at the January 22 meeting. Watson was formerly chief engineer at the giant magnesium plant at Henderson, Nevada, and planned to tell about the problems he encountered in his work.

Don Emerson of the California Institute of Technology was guest speaker at the January meeting of the Mineralogical Society of Southern California, Pasadena. He told of his experiences last summer with a Caltech glacier research party on Saskatchewan Glacier in Canada and Ganett Peak Glacier in the Wind River Mountains of Wyoming. He showed colored slides taken by the expedition.

Al Stoltz, field trip chairman of Pasadena Lapidary Society, announced Boron Wood was the destination for January. Members would look for petrified picture wood.

Wesley H. Hillendahl of Linde Air Products Company showed a colored motion picture on titanite at the January meeting of the Gem and Mineral Society of San Mateo County, California.

Seventeen years of club life will be marked by Sacramento Mineral Society when they hold their annual birthday banquet February 28 at Turn Verein Hall in Sacramento, California. The celebration is being planned by a committee headed by Elmer Lester and including John and Gladys Baierlein, George and Florence Pomeroy, George and Pauline Winslow, Herman and Merle d'Arcy, Robert and Edna Pulliam, Laurence and Beulah Walker, Lillian Coleman, Alta Craig, Marion Merton, Genevieve Colony and E. E. Pook.

Henry T. Fisher, new president of Wasatch Gem Society, Salt Lake City, Utah, spoke on "Superstitions of Precious Stones" at a recent meeting.

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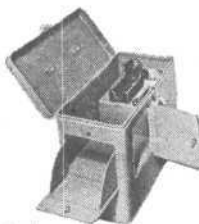
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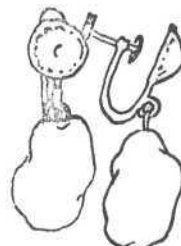
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Amateur Gem Cutter

By LELANDE QUICK, Editor of The Lapidary Journal

On this page last month we discussed the current vogue in the costume jewelry market of offering jewelry set with baroque stones. These are stones polished in their own natural contours; not cut to shape. We promised information on how to do this and the information was not long in coming for we received a fine article on the tumbling process a few days after writing the column.

While the article is informative it offers little of hope to the amateur gem cutter because it requires a batch of at least 100 pounds of stones to accomplish a satisfactory result. Few amateurs ever have any desire to process that many stones at one time for that would be several thousand small agates. Nor can a dozen or so gem-cutters go together and pool a batch for who is so wise he could tell which agates belonged to which individual once they were all processed?

However we offer the information (contributed by Ray C. Mitchell, 2753 Hawthorne St., Franklin Park, Illinois) for what it may be worth to the reader.

Tumbling is simply a method of placing objects to be treated in a drum or barrel of liquid (usually water) together with some kind of abrasive for cutting, and rotating it at low speed until rough surfaces have been ground away. This process is admirably adapted to rock polishing. The seas and the rivers have been doing it for countless centuries and the agates at Redondo or from the Oregon beaches or the Yellowstone River have all been tumbled before the rockhound gathers them. The fascination of the method we are discussing is that one can break up large rocks and tumble the pieces for a few hours and achieve what it has taken nature a million years to accomplish on the beaches of Time. Surely this is the supreme answer to the hard shelled mineral collector who resolutely turns his back on the lapidary hobby with the lame excuse that "you can't improve on nature."

The best type of drum to use for rock tumbling is a hexagonal barrel. This provides a maximum of sliding friction with a minimum of impact between stones. The speed of the revolving drum should be between 25 and 40 r.p.m. Inter-stone pressure is important in this process and that is why the minimum batch should be at least 50 pounds, with 100 pounds an ideal weight. Flats and fragile materials should have 100 grit silicon carbide mixed with the water. Agates, pebbles and the more rugged stones should have 40 to 60 grain to start with and increase to the finer grit after the roughing process. All stones should be tumbled until a smooth frosty surface is achieved. After the roughing is accomplished the machine should be dumped, the grit screened and the batch washed. Following this the process should be repeated with 240 to 320 grain abrasive.

After all visible scratches have been removed the finishing operation is quite simple and inexpensive. Of many polishing agents that have been tried it appears that levigated alumina is best. A very high polish has been achieved by using only water with a liquid detergent (Tide and

similar preparations) which secures a burnishing reaction between the stones.

There are many advantages to the tumbling process. At low speeds it is possible to polish large thin slabs with no breakage. Few stones are ever ruined as even improper methods will remove material slowly and provide a good finishing surface. Tumblers operate with the very minimum of attention of all lapidary machinery, about 50 hours being required to process 100 pounds of Sweetwater or smooth agates to the stage where they are ready to polish. These are already tumbled by Nature however. About 75 hours is usually enough to remove pits and uneven surfaces from desert agates or similarly pitted and uneven materials.

The great principal advantage of the tumbler is the ability to surface a miscellaneous batch of agates for inspection before further treatment. After tumbling a batch of miscellaneous material for only 20 hours a batch may be washed and examined. All weathered surfaces, softer matrix, etc., is then removed. Fractures, inclusions and pits are visible. Stones may then be properly oriented for sawing and further treatment on other lapidary machines. It is reported that the average batch contains about 50 percent duds so that it becomes apparent that a shop with a tumbler can save the time and expense of sawing from 500 to 1000 stones after only 20 hours of tumbling. At only three minutes per stone we then have a net saving of 25 to 50 hours of personally attended sawing time, besides saving the price of a blade or two. The time used in this process is only about one hour and it is clean work. The insurance offered is that no good stone has been ruined by improper sawing.

Mr. Mitchell reports that he has success with practically every type of stone cut by the amateur — Lake Superior, Montana, Horse Canyon, Fairburn and other pebble type materials.

After the preliminary tumbling a batch is sorted into four groups—polishers, cutters, sawers and junk. The junk is saved for door prizes at club meetings or for the swap table at shows. The polishers are further tumbled into baroque gems. The cutters are those stones suitable for standard grinding and polishing treatment and the sawers are used for slabbing. The junk, being smoothed and colorful, is reported to find a ready market with aquarium dealers.

There will always be a few stones that one will wish to carry over to the next batch for further treatment due to deep pits, thick matrix or other reasons. Stones running from 30 to 75 to the pound finish quite rapidly. Large stones from 3 ounces to a pound respond very slowly. Spheres roll perfectly and this is the ideal way to make agate marbles. When a few choice stones are to be given added treatment they may be placed with several successive batches and they will eventually come out, after several hundred hours' treatment, beautifully surfaced and almost spherical.

If any reader is interested in literature on tumblers please send a self addressed and stamped envelope for details.

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By RANDALL HENDERSON

THE WILD BURRO situation is getting more complicated all the time. Recently, in the current session of the California state legislature two bills were introduced. An assemblyman offered for passage a bill which would sanction the killing of wild burros "to prevent crop damage and protect farmers." At the same time, a state senator was introducing a statute which would impose a \$1000 fine for the killing of a wild jackass because "they don't harm anyone."

My guess is that California will not pass either of the measures. But the problem of the range burro still remains to be solved—and I am not one of those who would solve it by going out and slaughtering the animals.

There has been much favorable reaction to the suggestion made on this page that when the range becomes overstocked with wild burros, they be hunted with lassos rather than guns—and then offered for domestic service or as pets to anyone who will provide them with a good home. The burro was brought to American shores originally as a domestic animal, and was turned loose to forage for himself only when the prospecting and mining fraternity found it more profitable to use jalopies and jeeps for their exploratory work.

The burro is a very adaptable beast. Turned loose on the range it becomes as wild as an antelope, and much more difficult to kill. Antelopes and mountain sheep frequently are the victims of their own curiosity. Burros, having lived with human beings for many generations, have long ago learned all they wanted to know about the human species. They are never trapped by their own curiosity. But like most other animals, they are quite willing to accept food and water from human benefactors—and unlike most other denizens of the wild, are willing to work for it if they have to.

* * *

Many requests come to the *Desert Magazine* for large state and regional maps which incorporate all the detail of the various local maps we publish in the magazine from month to month.

In answer to such inquiries I have to explain that it just isn't feasible to produce such a map. During the more than 15 years since *Desert* was started—November, 1937, was the date of the first issue—nearly 400 maps have been drawn by Norton Allen and other artists covering the immediate locale of the stores published in this magazine—maps of gem and mineral fields, ghost towns, historical landmarks, active and abandoned mines, engineering projects, historic trails, etc. To combine all the detail of these localized maps into one huge state map would require a sheet of paper so big as to be unwieldy.

I believe that readers who follow the *Desert Magazine* maps—and there are many of them—must continue to depend on their state road maps for over-all guidance,

and then use their *Desert Magazine* maps for the detail of the locality they are visiting.

We have kept the plates for all the maps published in *Desert Magazine* since the beginning, and one of these days we expect to republish them on sheets which will fit a loose leaf binder. Well indexed, such a map book would show in detail nearly any locale in the desert Southwest—but it would still be necessary to use state road maps for inter-state travel routes.

* * *

According to newspaper reports, the 83 Indians in the Agua Caliente band at Palm Springs recently turned down an offer of \$9,000,000 for the 31,356 acres of land in their reservation. The land is valuable because much of it is in or near the City of Palm Springs.

The sale would have brought over \$100,000 to each member of the tribe, which is composed of 28 adults and 55 children. Refusal of the offer is not surprising to those who understand the attachment which most tribesmen have for their ancestral lands. Probably the Indians would have said "no" if the offer had been ten times as much as it was.

The Indians know something that we Anglo-Americans often forget—that money merely is a symbol of true wealth, and a very fickle symbol at that. Dollars can be inflated and deflated, lost, burned, or stolen.

But land, when it is composed of fertile soil and ample water, retains an elementary value in terms of production that can never be changed by man's manipulation of dollars. With some variations due to climatic conditions, it will produce about so many bushels of corn or potatoes. And a bushel of corn will sustain life for a definite period of weeks. The economics of a primitive people are as simple as that.

Those Agua Caliente Indians could be jockeyed out of their dollar fortunes in a few days. But the fertile land and the good water found on a considerable segment of their reservation will go on sustaining life indefinitely. I can understand the desire of the Agua Calientes to keep their land.

* * *

I really wish my friends down in Borrego Valley would get together and settle their feud over the date of the annual Liar's Contest. Last year they split up into two factions and held two contests—one in October and one on December 31. As far as I am concerned, that is too many Liars' Contests for one community.

Maybe the water they drink in Borrego—like the Hassayampa River water over in Arizona—makes 'em that way. But I rather doubt that. Generally I have found the folks in Borrego Valley to be quite a truthful lot o' people and I am afraid the outside world will get a wrong impression about them if they keep on holding Liars' Contests twice a year down there. And besides, it isn't good when a community starts splitting up into factions over such trivial matters as Liars' Contests.

Books of the Southwest

FRESH FACTS FOR STUDENTS OF CUSTER'S LAST STAND

Custer's Last Stand, the Battle of the Little Big Horn in 1874, is one of the most controversial subjects in American military history. Among its most devoted students is E. A. Brininstool whose book, *Troopers with Custer*, was published in 1925. A greatly expanded second edition has now been released by Stackpole Publishing Company, Harrisburg, Pennsylvania.

A *Trooper with Custer* includes much new material gathered by the author during the many years since the original small volume was printed. From a dramatic first chapter on the battle and the events immediately preceding, Brininstool moves to eyewitness reports of phases of the fight. The reports of Captain Benteen and Col. Varnum, the thrilling escape of Derudio and O'Neil from the Indians, the account of Trumpeter Martin who carried the famous message from Custer to Benteen—all are told by the participants themselves.

Pro- and anti-Custerites have been arguing for three-quarters of a century—Was there a Custer survivor? Were Custer's remains ever positively identified? Was Major Reno a coward? Brininstool's careful work adds fresh fuel to the controversial fire.

343 pages, 63 halftone illustrations, \$5.00.

GUIDE TO GOOD READING IN SOUTHWESTERN LITERATURE

J. Frank Dobie's *Guide to the Life and Literature of the Southwest* includes most of the books about the Southwest that people in general would agree on as making good reading.

Dobie was a professor at the University of Texas for many years, and the *Guide* grew out of a reading list he prepared for his famous class in Life and Literature of the Southwest.

Books are grouped in chapters according to subject—How the Early Settlers Lived; Pioneer Doctors; Stagecoaches, Freighting; Cowboy Songs and Other Ballads; Nature, Wild Life, Naturalists; Mining and Oil; Birds and Wildflowers — and numerous other classifications, each covering a different facet of the Southwest, its people and history. Each chapter has an explanatory introduction, and each book is briefly described.

The book is in nowise a bibliography, but rather a guide to reading. According to its author, "it is designed primarily to help people of the Southwest see significance in the features of the land to which they belong, to make their environments more interesting to them, their past more alive, to bring them to a realization of the values of their own cultural inheritance and to stimulate them to observe."

Published by Southern Methodist University Press, 222 pages, index. \$3.50.

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Music occupies an important place in the broad sweep of cultural history. An integral part of a people's social and economic environment, it is one of the most revealing expressions of their life and temperament and times.

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The study deals with the Mormon's passionate devotion to music as an antidote to weariness, privation, persecution and exile. It describes the songs of the rough mining frontiers and the riotous, fabulously rich camps of Virginia City and Tombstone, recalls the music of mission, range and pueblo, and traces the evolution of music in Southern California from the days of the rancheros to the Los Angeles Philharmonic Orchestra, the Hollywood Bowl and the musical scores of motion pictures.

Published by the Huntington Library, 316 pages, 8 illustrations, index. \$5.00.

Books reviewed on this page are available at Desert Crafts Shop, Palm Desert

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